

# Technology Review

Edited at the Massachusetts Institute of Technology

March, 1966

National Transportation



# technology review

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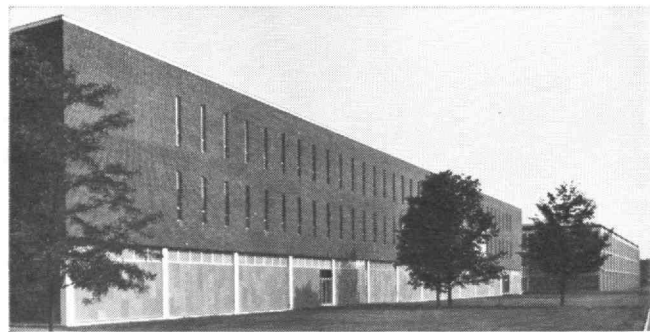
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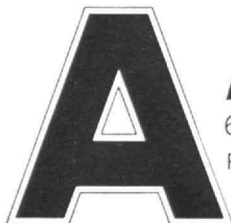
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# DASH



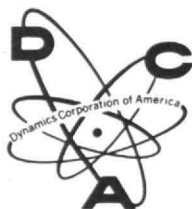
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# Technology

# Review

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## National Transportation: A STUDY IN CONFLICTS

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If we construct it carefully, a national policy might resolve inconsistencies in both operations and subsidy.



## ON THE TEACHING ISSUE

Criticism of teaching in colleges and universities often overlooks the root questions. In the three articles that follow, The Review offers some insights of those who have a professional interest in the problem.

## CREATIVE TEACHING IN A MODERN SOCIETY

16

Stressing fundamentals and resisting the pursuit of grades are part of a complex task, writes Professor Kurt S. Lion.

## TEACHING IS BETTER THAN EVER

22

The growth of university research is a counterforce against stagnating scholarship, says James R. Killian, Jr., '26.

## THE SUPERPLASTICITY CASE

28

Unusual professional honors come to two students who met a difficult challenge in the laboratory.

## IN QUEST OF UNDERSTANDING

30

Two colleagues recall characteristic methods and questions with which Norbert Wiener illuminated the world around him.

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THE COVER this month suggests some of the problems and complexities inherent in considering a national transportation policy, as discussed in the article by Assistant Professor Secor Browne. The design is by Ralph M. H. Coburn, '47, of M.I.T.'s Office of Publications.

# INDIVIDUALS NOTEWORTHY

## Urban Undersecretary

Robert C. Wood, Head of the Political Science Department at M.I.T., is the new undersecretary to the U.S. Department of Housing and Urban Development. President Lyndon B. Johnson appointed Dr. Wood on January 13 to assist Robert C. Weaver in the newly formed Cabinet-level department.

Dr. Wood, a recognized expert on urban affairs and one of President Kennedy's Cambridge advisers during the 1960 campaign, worked on a special presidential "task force" on urban and metropolitan problems and submitted the report which led to the formation of the new department.

A 1946 Princeton graduate, Dr. Wood received two master's degrees and his Ph.D. from Harvard. He spent three years with the U.S. Bureau of the Budget, was lecturer and assistant professor of government at Harvard from 1954 to 1957, and was a visiting professor of public administration at Syracuse University. He came to M.I.T. in 1957, became professor of political science in 1962, and was appointed last June as Head of the new Political Science Department.

At M.I.T., Dr. Wood has been a member of Project Transport which conducts research on high-speed ground transportation between Boston and Washington.

Dr. Wood has been a member of the Surgeon General's Advisory Committee on Urban and Metropolitan Health Problems, and of the National Capitol Transportation Agency, to which he was appointed by President Johnson. He was one of a number of urban experts who assisted in planning a new city to be built in the jungles of Venezuela. He is the author of *Suburbia: Its People and Their Politics* and *1400 Governments, The Political Economy of New York*.

An advocate of increased participation in urban affairs, Dr. Wood said recently that he believes "all parts of our great metropolitan areas are bound together in the task of building a new kind of urban region."



UNDERSECRETARY WOOD

## Experimental Medicine Post

Dr. John B. Stanbury has been appointed as Professor of Experimental Medicine in the Department of Nutrition and Food Science and Director of the M.I.T. Clinical Research Center. In addition, Dr. Stanbury plans to develop a research and training program in endocrinology and metabolism.

Dr. Stanbury was graduated from Duke University and received his M.D. from Harvard. In 1946, after interning at the Massachusetts General Hospital and four years of active duty in the U.S. Navy, he joined the house staff of MGH. Since 1949, he has been director of the Thyroid Research Unit and associate clinical professor of medicine at the Harvard University School of Medicine.

In recent years, he has served as a consultant to the Pan American Health Organization/World Health Organization and has engaged in field studies of goitre in Mexico, Lebanon, and many South American countries. Dr. Stanbury is an internationally recognized authority on thyroid metabolism and is the author of three books on the subject.

## Goddard Award

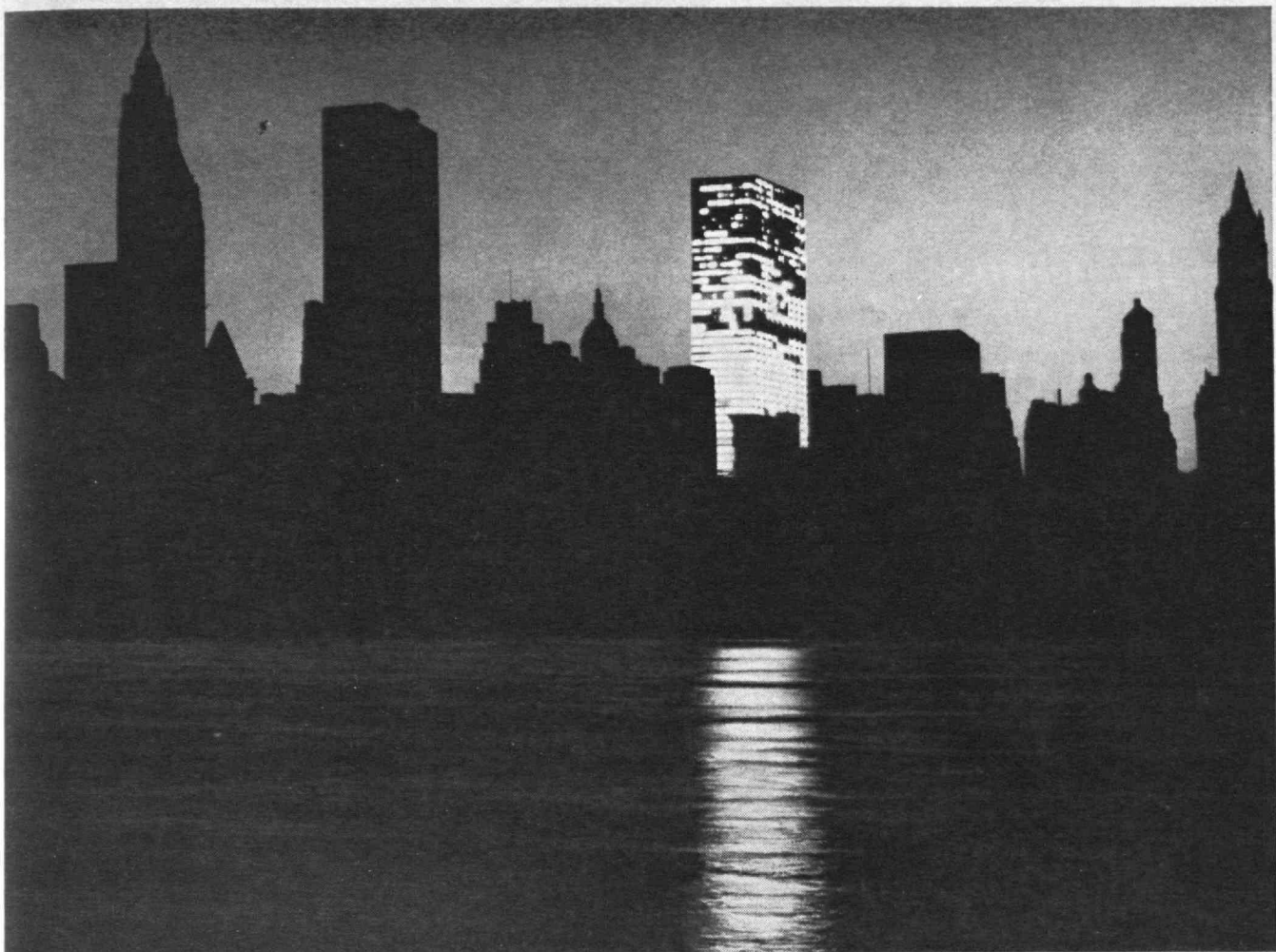
Arthur W. Blackman, Jr., '51, a Fellow at M.I.T.'s Alfred P. Sloan School of Management, is one of three winners of the Goddard Award of the American Institute of Aeronautics and Astronautics. The award, is the AIAA's highest and carries with it an honorarium of \$10,000. It is presented for outstanding discoveries or contributions in the engineering science of propulsion or energy conversion.

Hans J. P. von Ohain and George D. Lewis shared the award with Mr. Blackman. Dr. von Ohain was cited for his development in 1939 of the first successful application of turbojet propulsion to operational aircraft. The second half of the award was given to Mr. Blackman and Mr. Lewis for "their contributions to the understanding of the phenomenon of combustion instability and for their recognition of acoustical liners as a method of suppressing such instabilities in turbojet afterburners and rocket engines."

Mr. Blackman was graduated from the University of Alabama and received a master's degree in mechanical engineering at M.I.T. He is chief of propulsion at the United Aircraft Corporation and was awarded an Alfred P. Sloan Fellowship in Industrial Management for 1965-1966.

The members of the AIAA Board of Award who selected the recipients included Chairman C. Richard Soderberg, '20, Institute Professor Emeritus at M.I.T.; Jerome B. Wiesner, Dean of the School of Science at M.I.T.; Raymond L. Bisplinghoff, Special Assistant to the Administrator, National Aeronautics and Space Administration and former Professor of Aeronautics and Astronautics at M.I.T.; Harvey Brooks, Dean of Harvard University's Division of Engineering and Applied Physics; John G. Lee, '21, Consultant to the United Aircraft Corporation and retired Director of Research with the United Aircraft Research Laboratories; H. Guyford Stever, President of Carnegie Institute of Technology.

(Continued on page 6)



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(Continued from page 4)

## New Posts

Named in the news of promotions, elections, and appointments recently were:

*Robert L. Moore*, '21, as a Director and Executive Committee Member, Hanover Insurance Company . . . *B. Alden Cushman*, '24, as Senior Vice-President, the J. Henry Schroder Banking Corporation and Schroder Trust Company . . . *George P. Edmonds*, '26, as a Director and Finance Committee Member, E. I. du Pont de Nemours & Company;

*Lester B. Woolfenden*, '27, as Regional Manager—Manufacturing, Dyestuff and Chemical Division, General Aniline and Film Corporation . . . *Richard S. Morse*, '33, as a Director, Dresser Industries, Inc. . . . *Peter Kalustian*, '34, as Vice-president, Drew Chemical Corporation;

*Bertrand E. Bennison*, '37, as Head, Department of Biological Sciences, Drexel Institute of Technology . . . *Nathaniel M. Martin*, '38, as Staff Vice-president—Engineering and Construction, Olin Mathieson Chemical Corporation . . . *I. M. Pei*, '40, as a Member, National Council on the Humanities . . . *Charles E. Wampler*, '40, as a Director, Sun Chemical Corporation;

*Harvey I. Kram*, '42, as Vice-president—Operations, Leviton Manufacturing Company . . . *Harry C. Platt*, '42, as First Vice-president, Engineered Products Division, American Brake Shoe . . . *William C. Tallman*, '42, as a Director, New Hampshire Insurance Company;

*Peter G. Volanakis*, '42, and *Benjamin Kessel*, '48, as Directors, Associated Industries of Massachusetts . . . *Bruce E. Horst*, '43, as President, Barber-Colman Company . . . *George H. Hotte*, '43, as Associate Professor, Department of Clothing, Textiles and Related Art, University of Connecticut;

*Warren J. Harwick*, '44, as Manager—Research and Development, Rex Chainbelt, Inc. . . . *Clifford A. Spohn*, '44, and *Edwin Kessler*, '52, as Councilors, American Meteorological Society . . . *Richard L. Ball-*



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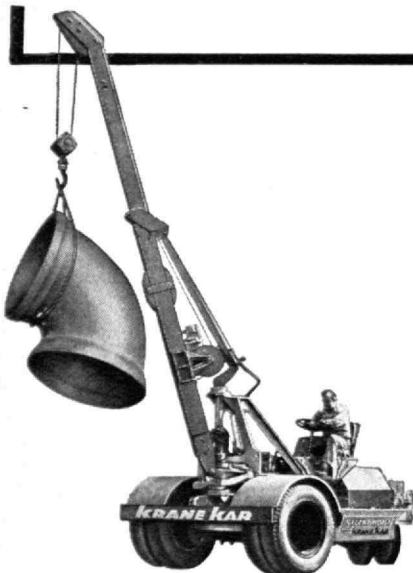
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man, '46, as Scientist, Hydrocarbons & Polymers Division, Monsanto Company;

Merritt T. Cooke, '47, as Assistant to the President, The Philadelphia Saving Fund Society . . . Glenn R. Hilst, '48, as Treasurer, American Meteorological Society . . . Robert L. Vader, '48, as Vice-president—Technical Services and Products, Lockheed Aircraft Service Co.;

Lachlan F. Blair, '49, as Associate Professor of Urban Planning, University of Illinois . . . A. Scheffer Lang, '49, as Deputy Undersecretary for Transport Research, U.S. Department of Commerce . . . Harold A. Spuhler, '50, as a Member, Evaluation Group, Graduate Science Facilities Section, Division of Institutional Programs, National Science Foundation;

Marshall Fixman, '54, as Professor of Chemistry, Yale University . . . Narendra P. Loomba, '54, as Head, Department of Management Science, Lehigh University . . . George Philips, '54, as Vice-president—Corporate Operations and Development, The Sweets Company of America, Inc. . . Henry B. du Pont, 3d, '55, as a Trustee, University of Bridgeport;

William R. Prindle, '55, as Corporate Director of Research, Ferro Corporation . . . Philip Spertus, '56, as Executive Committee Member, Young Leadership Cabinet, United Jewish Appeal . . . Gerald P. Cahill, '58, as Treasurer, the Torrington Manufacturing Company.

## Honored for Research

Maxine L. Savitz, '61, has received the annual Research Society of America Award for her studies related to fuel cells. The award, based on individual achievement in pure or applied science, was presented to her by the RESA branch at the Army Engineer Research and Development Laboratories at Fort Belvoir, Va., where she works in the Electrical Power Division.

Dr. Savitz was graduated from Bryn Mawr in 1958 and received her Ph.D. in chemistry at M.I.T. She was recognized for her work in anodic oxidation of hydrocarbons, which is of particular interest for direct generation of electrical power from liquid fuel in a fuel cell.

(Continued on page 8)

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By ROBERT D. STUART, *Northeastern University*

Intended for the first course in field theory—or microwave theory—for electrical engineers, this text requires a background in general physics, vector algebra, and differential equations. It is essentially concerned with developing from first principles the properties of electric and magnetic fields, and the interaction of these fields with charged particles.

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### TIME-DOMAIN ANALYSIS AND DESIGN OF CONTROL SYSTEMS (1603)

By RICHARD C. DORF, *University of Santa Clara*

This book is designed to introduce the student of control theory to analysis and design in the time domain. Covers the formulation and solution of equations describing the performance of control systems. The analysis and design is accomplished in the time domain and is useful for digital computer calculation.

194 pp, 144 illus (1965) \$8.95

### LINEAR DATA SMOOTHING AND PREDICTION IN THEORY AND PRACTICE (0610)

By R. B. BLACKMAN, *Bell Telephone Laboratories, Inc.*

This book is essentially concerned with methods of data-smoothing and prediction which have been considered for practical use—many of which have actually been put to practical use. The subject is approached from the transmission point of view.

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(Continued from page 7)

## Professor Honored

Professor Manson Benedict, '32, Head of the M.I.T. Department of Nuclear Engineering, has been chosen to receive the 1966 Perkin Medal for his contributions to the successful design and operation of the first gaseous diffusion process. The medal, established in 1906 and awarded for outstanding work in applied chemistry, was to be presented to Professor Benedict on February 17.

Perkin medalists are elected yearly by a Jury of Awards composed of members of six leading chemical industry societies.



**PROFESSOR BENEDICT**

Among Professor Benedict's contributions to industrial chemistry was his research for the M. W. Kellogg Company during 1938-1943 on the properties of hydrocarbons, in the course of which he developed an equation of state for these compounds that is the basis for equilibrium charts widely used in the petroleum industry. He also developed a process for producing toluene.

During World War II, as a result of his investigation into the feasibility of the gaseous diffusion process for uranium hexafluoride, he was appointed head of the process development division of Kellogg Corporation, a wartime subsidiary of M. W. Kellogg. He was in charge of the process design of the gaseous diffusion plant which was constructed for the Manhattan Project at Oak Ridge for concentration of Uranium-235.

In 1951 he returned to M.I.T. as a full professor to organize a graduate program in nuclear engineering and under his leadership a Department of Nuclear Engineering was established in 1958.

Since 1948, he has been a consultant to the Atomic Energy Commission, and in 1958 was appointed by President Eisenhower to the AEC's General Advisory Committee, of which he was chairman from 1962 to 1964. As Scientific Adviser to the U.S. delegation he attended the International Conference on the Peaceful Uses of Atomic Energy, held in Geneva in 1955, 1958, and 1964.

## From the South

Professor James W. Silver, a specialist in the history of the South, will teach two courses at M.I.T. during the spring term, one on southern sectionalism and one on the Negro in America. Professor Silver is on leave of absence from the faculty of the University of Mississippi at Oxford, and will be a visiting professor in the M.I.T. Department of Humanities.

Professor Silver has written several books, including *Mississippi: The Closed Society* which won several prizes.

(Concluded on page 10)



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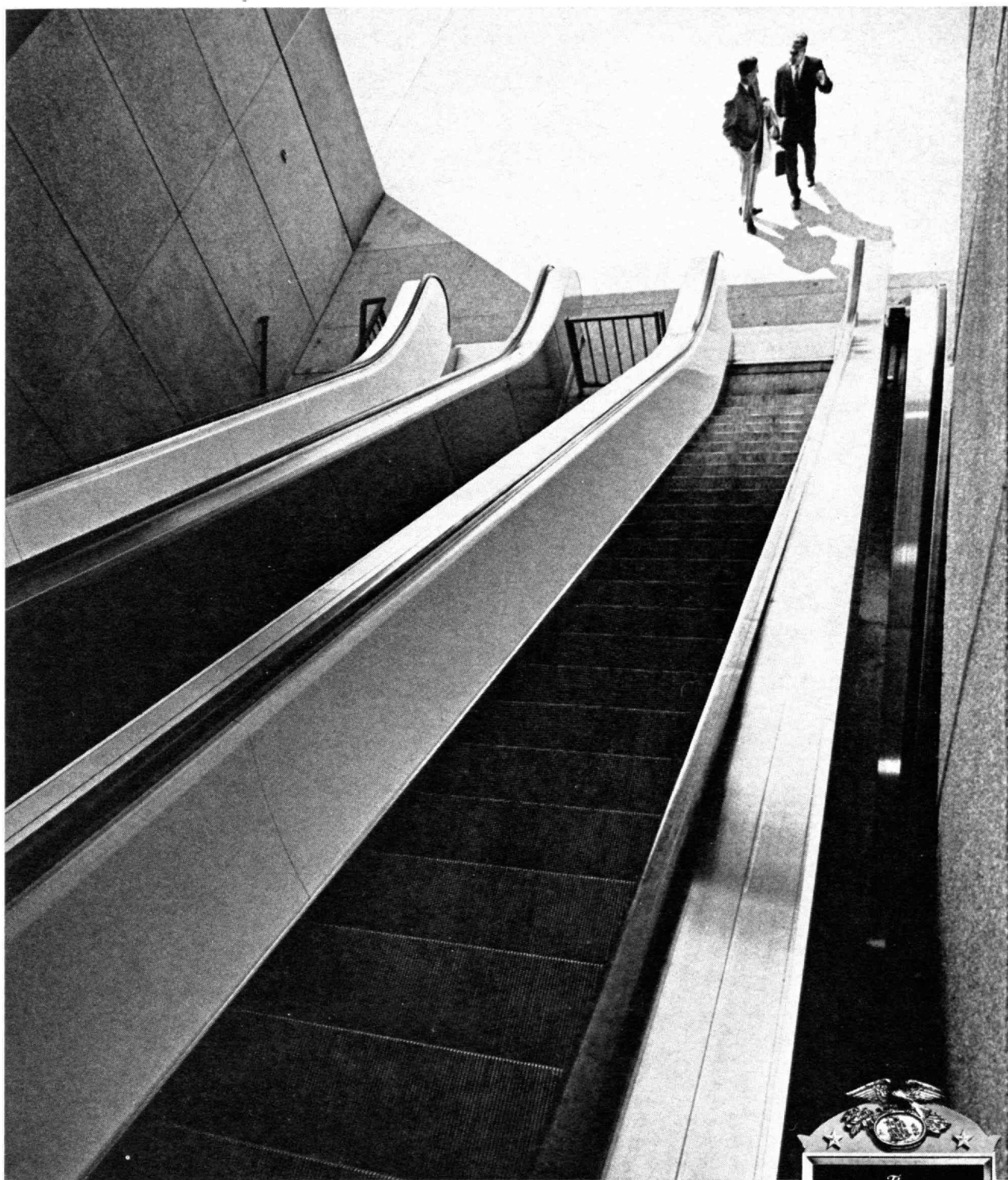
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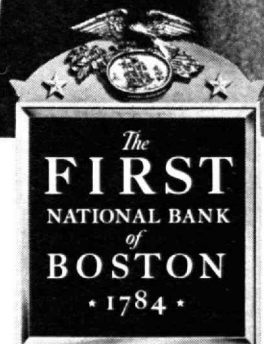
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## Carlton E. Tucker: 1896-1966

Professor Emeritus Carlton E. Tucker, '18, who had been associated continuously with M.I.T. for 51 years, died in his office at the Institute last January 17.

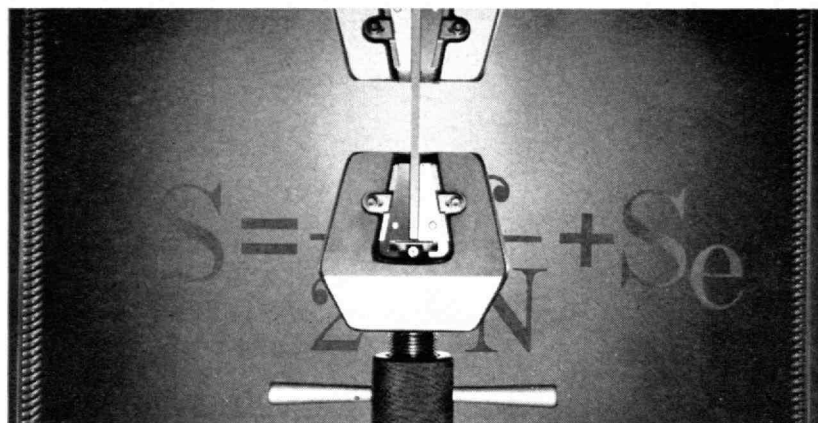
Professor Tucker is remembered particularly for his interest in students, for his constant concern with the development of Course VI, and for his organizational abilities. An authority on the principles and practice of electrical machinery and of telephone communications systems, he had accepted the responsibility of organizing, developing, and improving the Institute's telephone system, which is now the third largest private exchange in the New England division.

Born in 1896, he attended the Whitman public schools, Harvard University, and M.I.T., receiving the bachelor of science degree in 1918 from both Harvard and M.I.T. In that same year, he joined the M.I.T. staff as an assistant in the Department of Electrical Engineering. He became assistant professor in 1924, associate professor in 1930, and professor in 1938.

Professor Tucker became professor emeritus in 1962 but continued to serve as his Department's Executive Officer, a post he had held since 1942. During his years of full-time service he also undertook a number of other administrative assignments. From 1942 to 1953, he served as the Institute Student Placement Officer and from 1943 to 1949 he was Director of the M.I.T. Radar School. He was a Fellow of the Institute of Electrical and Electronics Engineers and a member of the American Society for Engineering Education. With C. W. Ricker, '14, of Tulane University, he was co-author of the book *Electrical Engineering Laboratory Experiments*.

Professor Tucker also had a special avocational interest in railroads and railroading, and his knowledge of the subject was encyclopedic.

He is survived by his wife, the former Louise Porter; two daughters, Mrs. Caroline Seward of Whitman and Mrs. Nancy McLaughlin of Hanson; and six grandchildren.



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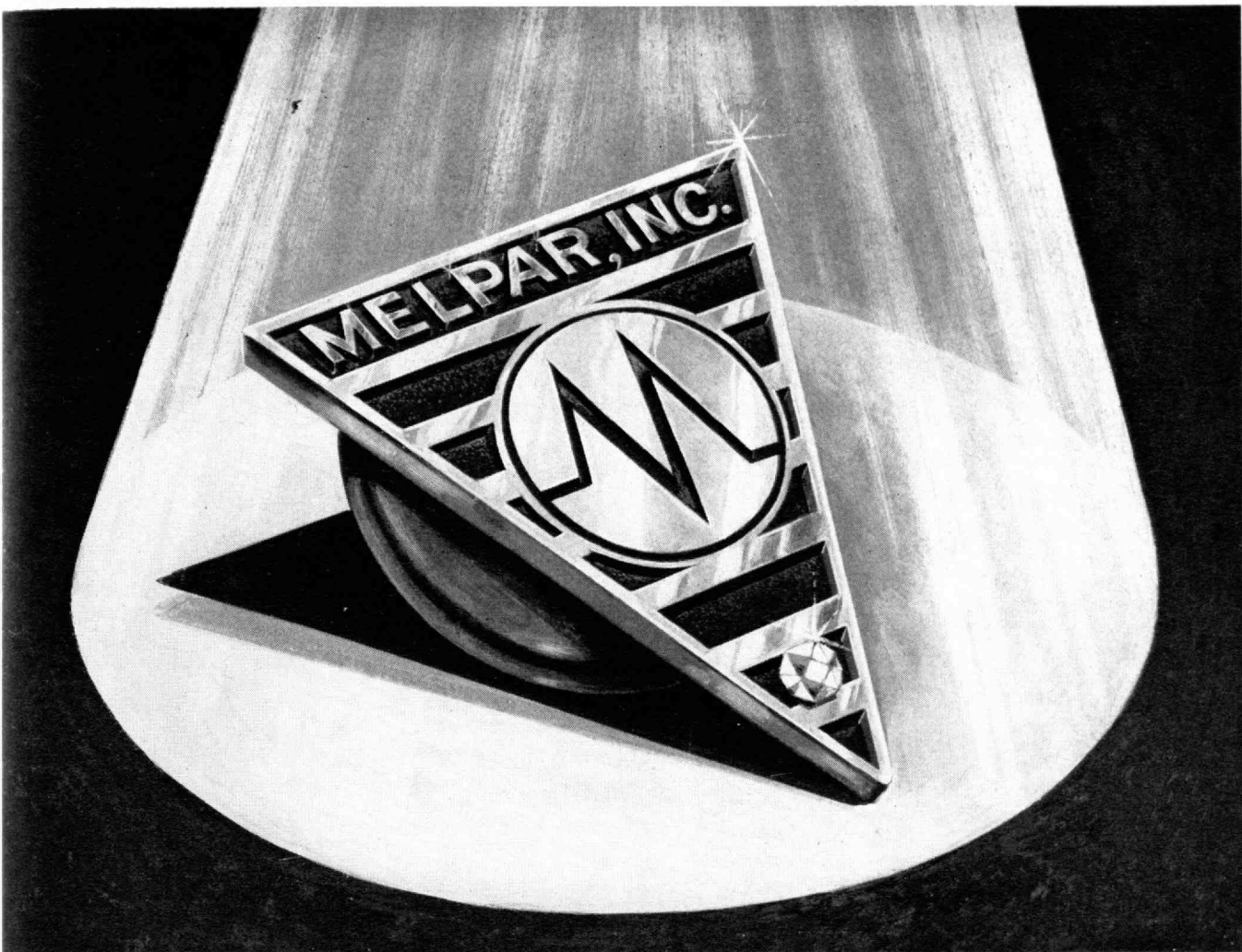
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# National Transportation: A STUDY IN CONFLICTS

*A Cabinet-level department could help to resolve them but we must take care that the remedy treats the ills*

By Secor Browne

*Professor Browne is a specialist in flight transportation who is concerned with the total problem of moving goods and people. Here he debates the issues involved in forming a U.S. Department of Transportation, as proposed last January by President Lyndon B. Johnson. A linguist, too (he is assistant professor of Russian at M.I.T.), Professor Browne has written for The Review also on his travels in Russia.*

Total transportation expense by the private sector of our economy amounts to 20 per cent of our Gross National Product and the vital importance of effective transportation to everyone makes it imperative to understand the means that have been proposed for improving the efficiency and convenience of transportation. One such proposal involves the creation of a cabinet-level Department of Transportation. The purpose of this brief survey is to outline some of the pros and cons which have been brought forward in regard to the formation of such a department. No matter what may be the eventual solution to our nationwide transportation difficulties, it is most important that the solution itself be carried out in the smoothest and most rational manner possible. If the cure should turn out to be worse than the disease, the long-term effect on the development of

our national economy could well be disastrous.

Proposals for a U.S. Department of Transportation, dating back to the first session of the 43d Congress in 1874, have become increasingly attractive to organizers and reorganizers of government as both the complexity and interrelationships of transportation modes have increased.

The case for a cabinet-level Department of Transportation appears to rest primarily on the benefits derived from having a primary focal point within the Federal government for the determination and implementation of a national transportation policy. Supporters of a Department feel that there is no other way to provide the stature and authority to cope with the terribly fragmented and frequently illogical structure of the Federal establishment as it is now organized to deal with transportation problems. Because of this fragmentation of responsibility and authority there is no co-ordination and, therefore, no consistency in the allocation of federal resources either for capital investment in transportation facilities or in operating subsidies; nor is there adequate co-ordination between Federal, State, and local regulatory policies.

The absence of a focal point for transportation policy means, as one



*Wide World Photo*

Traffic on a busy American highway runs alongside a deteriorating railroad yard.



Wide World Photo

A splendid traffic jam in Rome. Central control doesn't always solve problems.

example, that there is no effort to balance local-service airline subsidies, which are within the jurisdiction of an independent regulatory agency, against Federal maritime subsidies which are under the jurisdiction of an arm of the Executive Branch. As another example, despite the Administration's commitment to the principle of user charges, there is little co-ordination in the application of this principle—with the result that the air carriers are burdened with charges that approach the full cost allocable to them while the water carriers remain free of user charges. The opponents of a Department of Transportation maintain, however, that intelligent co-ordination between existing agencies and departments at the direction of the Executive Branch is the proper way to eliminate conflicts and inconsistencies which, they say, would not be avoided simply by the creation of an additional Department.

Depending on specifics of the proposal, from 10 to 15 agencies or subdivisions of agencies, embracing 50,000 to 100,000 people and a budget of more than six billion dollars, would be combined in one Department under a Cabinet Secretary who would be responsible to the President for the detailed determination and administration of national transportation policy.

The enabling legislation, in addition to assigning powers of determination and administration to a Department of Transportation, would have to define the broad lines of the national transportation policy which (under the direction of the President) would be the responsibility of such a Department, and also any matters of regulation and control of transportation that would remain in or be assigned to other agencies of government. Presumably, for *all* transportation modes, this new Department would deal with such matters as: transportation subsidies; justification of and responsibility for public investment in transportation,

facilities and equipment and their improvement, maintenance, and operation; transportation safety; economic and technological research; transportation promotional responsibilities including mass transit programs; federal-state-local transportation policy co-ordination; and national emergency transportation co-ordination and leadership.

History and the precepts of C. Northcote Parkinson indicate that the creation of such a new Department would not lead to any significant reduction either in the number of federal employees or in the amount of the federal budget devoted to transportation. In fact, the opposite could be expected as the Department itself grew with its responsibilities and as staffs remained in those Agencies not completely absorbed, in order to co-ordinate matters of mutual interest with the new Department.

In addition to justifying a probable increased federal allocation of men and money, the proposal for a new Department would have to justify and survive Congressional reconstruction of prior transportation legislation as well as withstand pressures from persons within and without the Government either resisting change or eager to be its specialized architects.

Far more serious than either an increase in the federal bureaucracy and the federal budget or the imposition of a highly complex and time-consuming legislative problem on the Congress would be the possibility that the creation of a Department of Transportation would have a disruptive effect on the systems of transportation which it is intended to preserve and improve.

Highly developed countries with departments or ministries of transportation and varying degrees of centralization, control and ownership of transportation modes do not seem to suffer less, in sum, from transportation problems than the U.S., although the specifics may vary wide-



Dan J. McCoy *BLACK STAR*

Despite such congestion, the U.S. has one of the best transportation systems.

ly. Not all European railroads run to the exact schedules and provide the creature comforts exemplified by their relatively limited number of crack expresses; and the struggle to get a reservation on the high-density, capacity-restricted Paris-London air service makes a sorry contrast to the efficient air shuttle services on both coasts of this country. Moreover, the congestion of urban U.S. street and freeway traffic pales in comparison to Paris or Tokyo traffic or British highways over a Bank Holiday weekend. The fact is that the transportation industry of the United States has, in the main, created systems for transporting people and goods that are equal or superior to similar transportation modes anywhere in the world.

A final uncertainty with respect to the national interest in a Department of Transportation is the matter of timing, both for the establishment of a separate Department and for the schedule for its assimilation of responsibilities and powers. Over the last 90 years some 17 legislative proposals have failed in their goal of creating within the Executive Branch a central point for the definition and administration of national transportation policy. Yet, their defeat may have been only a matter of timing; perhaps the magnitude of the total problem had not yet outweighed the practical disadvantages and penalties inherent in centralized federal control and administration of transportation policy.

Study and future planning for interrelated transportation complexes for areas such as the Northeast Corridor may indicate, however, that we are approaching the point where failure to define and administer a coordinated national transportation policy at Cabinet level can result in massive investments of national resources in competitive modes of transportation, only with the result of further compounding the over-all transportation problem which these investments are proposed to relieve.

Specifically, a very high-speed rail system is considered for the Northeast Corridor but certain hitherto immutable laws of nature with respect to noise may force it underground at an expense that we might conservatively qualify as "staggering." At the same time, in order to encourage the principal architect of the railroads' plight, the private automobile, the area will be swaddled increasingly in concrete ribbons representing a more than substantial investment of our resources. Finally, the spectacular growth of commercial air services and business and private flying within the Northeast Corridor indicate greatly increased investment in airways and airport facilities—requirements that will only be complicated further by new families of improved air vehicles ranging from vertical and short-takeoff machines to giant air buses.

Under the present disparate and often competitive federal agencies and external pressures, there is every likelihood that road, rail, and air transportation will continue to have unco-ordinated and wasteful federal encouragement that will aggravate their individual and collective problems, with very little hope that the so-called "interfaces" between transportation modes will become points of transition rather than points of collision.

The waste, confusion, and ineffectiveness of duplicate and triplicate allotment of national resources for lack of a single national transportation policy and means for its implementation can become increasingly evident as an effort is made to deal with the total transportation policy of other "corridors," areas, and regions; therefore, perhaps the time to establish a National Department of Transportation is now.

The schedule for inclusion of Agencies and subsections of Agencies, however, is very complex, especially if we are to avoid more than minimal confusion and disruption in

(Concluded on page 46)

# CREATIVE TEACHING



## The Teaching Issue

*As James R. Killian, Jr., '26, notes, it is fashionable currently to berate universities for neglect of teaching. Yet seldom do the critics pause to ask: What makes a good teacher? In this light, The Review this month presents discussions by two educators who have devoted their lives to the problems of teaching. Before coming to M.I.T. in 1941, Professor Lion taught in universities in Europe and the Mid-East. He is also an eminent scientist and the article beginning on this page is adapted from the Distinguished Lecture 1965 which he gave last fall before the Instrument Society of America. In the next essay, **TEACHING IS BETTER THAN EVER**, Dr. Killian argues that only research can minimize the "drab, anemic academicism" that afflicts "teaching factories." In the following report on **THE SUPERPLASTICITY CASE**, The Review describes an unusual instance of inspired teaching.*

*We can prepare the innovator of tomorrow by conveying basic concepts and by resisting the worship of grades*

# IN A MODERN SOCIETY

By Kurt S. Lion | Associate Professor of Applied Biophysics

It has been said that teaching is a simple matter; all it requires is a teacher and a student and a log for both to sit on. The simplicity of the picture is no guarantee for a successful operation of a school system. The student may or may not have the intellectual means to learn or he may not be inclined to learn. The teacher may not know enough of the subject matter or he may not know how to present it in a manner acceptable to the student. There may be personality differences or communication difficulties between teacher and student which prevent a successful transfer of knowledge.

The difficulties mount if there is not one student but many. Mass teaching—a problem we will have to face as the population and the cultural needs of our society increase—poses new problems that the lonely teacher on the log never thought of. With increased complexity of the teaching process, the log changes to a modern school or university with facilities for the numerous functions that become part of a modern educational institution. Teaching in a modern society has become a large-scale enterprise, a billion-dollar industry that consumes a large part of the national working force. It is evident, therefore, that good and efficient teaching is a matter of great national concern.

What is the goal of teaching and what should be the product of our education? The answer to these questions depends upon both the individual student and the society. The former will seek an education that leads to a satisfactory (for him) fulfillment of his needs concerning the field of interest he wishes to study and the position within the society he wishes to obtain. But society too has some interest in the product of an education. Even in a democracy, society exercises a value judgment that finds expression in the social status or

prestige that it accords to different activities or professions, or in the financial compensation offered for different jobs, or in the mere availability of positions.

This value judgment is not static but changes with time or, more accurately, it changes with national needs, philosophic attitudes, and with the political constellation. Our society and others accord high positions on the value scale not only to top performers in the worlds of entertainment and sport and to political leaders, but primarily to industrial administrators, research workers, and scientists. The place for the teacher is much further down the scale. But the value judgment of the society seems to go further; even within a certain discipline it is the innovator, or the successful discoverer or inventor who is accorded the relative highest status. It is unimportant for the argument (but, alas, not for the creative person) that the high position on the value scale accorded to him has come, at times, as posthumous fame.

The interest of society in innovators, discoverers, or inventors has its rationale. A progressive science has laid the groundwork for the economic development in our society. Strong production and inventive potentials are therefore the safeguards against depressions and a strong reserve in the case of enemy attack. It is of fundamental interest for any country to maintain and build up a working force capable of innovation, regardless of whether the goal of innovation be pure or applied science or the man on the moon. Only from this viewpoint can the public spending of large sums of money for research and development be understood and defended.

Can creativity be taught? Is not creativity inherent in a person, given at birth? Certainly there are immense differences between student personalities but most teachers would agree that creativity is innate in many

students to a larger or lesser degree. This gift can be stifled; consequently, it should be possible to bring it out, to further it, by adequate teaching and practicing.

We know very little about the creative process and what we know is frequently the result of introspection. However, some reports of creative personalities are available, notably those of the French mathematician Henri Poincaré. Jacques Hadamard has collected such reports; from his essay and from other sources and observations we may form a tentative image of the creative process.

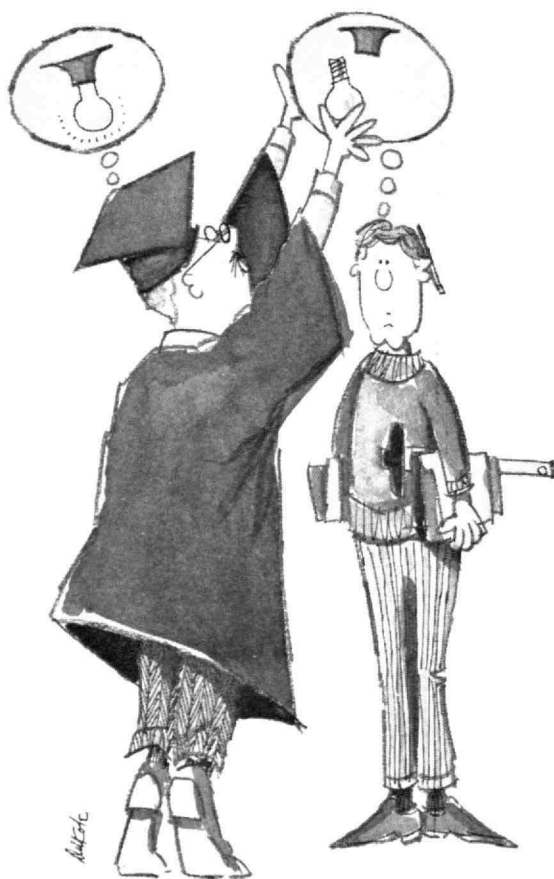
Making an invention requires a strong motivation leading to an intense occupation with the problem, a "thinking in different dimensions" whereby the mind as it were combines different concepts and critically evaluates the effects of such combinations. At least a part of this mental activity takes place in the subconscious mind, as has been demonstrated by several discoverers and inventors. This concentration on a problem may take place at any time (and also may explain the proverbial absent-mindedness of a professor).

To be effective, the critical evaluation requires an unbiased attitude and open-mindedness of the discoverer. Any bias brings with it the danger of a derailment of thoughts into a "false groove," which may be the reason for Claude Bernard's statement that those who have an excessive faith in their ideas are not well fitted to make discoveries. There are reports of a number of cases in which the solution to a problem occurs to an inventor suddenly and without apparent connections to his work on former days. It appears obvious that such sudden flashes are caused in the subconscious mind, but we know nothing about this aspect of the genesis of ideas and it is quite possible that we shall never know.

If the assumption is correct, then the prerequisite for the creative process is the existence of a sufficient number of concepts in the inventor's memory system. The larger the number available to him and the more comprehensive and clear they are in his mind, the greater should be the chance of coming up with a solution that bears evidence of creativity or, to use the language of patent law, that shows the "flash of creative genius."

To this admittedly speculative and hypothetical picture I can add an observation from my own work. Many scientists and engineers, including myself, have a limited number of concepts which they prefer to use for the solution of a variety of problems. If one knows a man for some length of time one can almost predict the type of technology he will propose in an engineering conference. The solution that he suggests will be the more valuable the more concepts he knows, the more clearly he knows them, and the more fundamental his understanding. Engineers who have only an acquaintance with peripheral matters, who read only recent literature, will seldom make a basic contribution. Creative personalities read basic physics and chemistry textbooks or handbooks as well as recent publications.

Thus, preparing a student for creative accomplishments should be directed to the formation of clear and

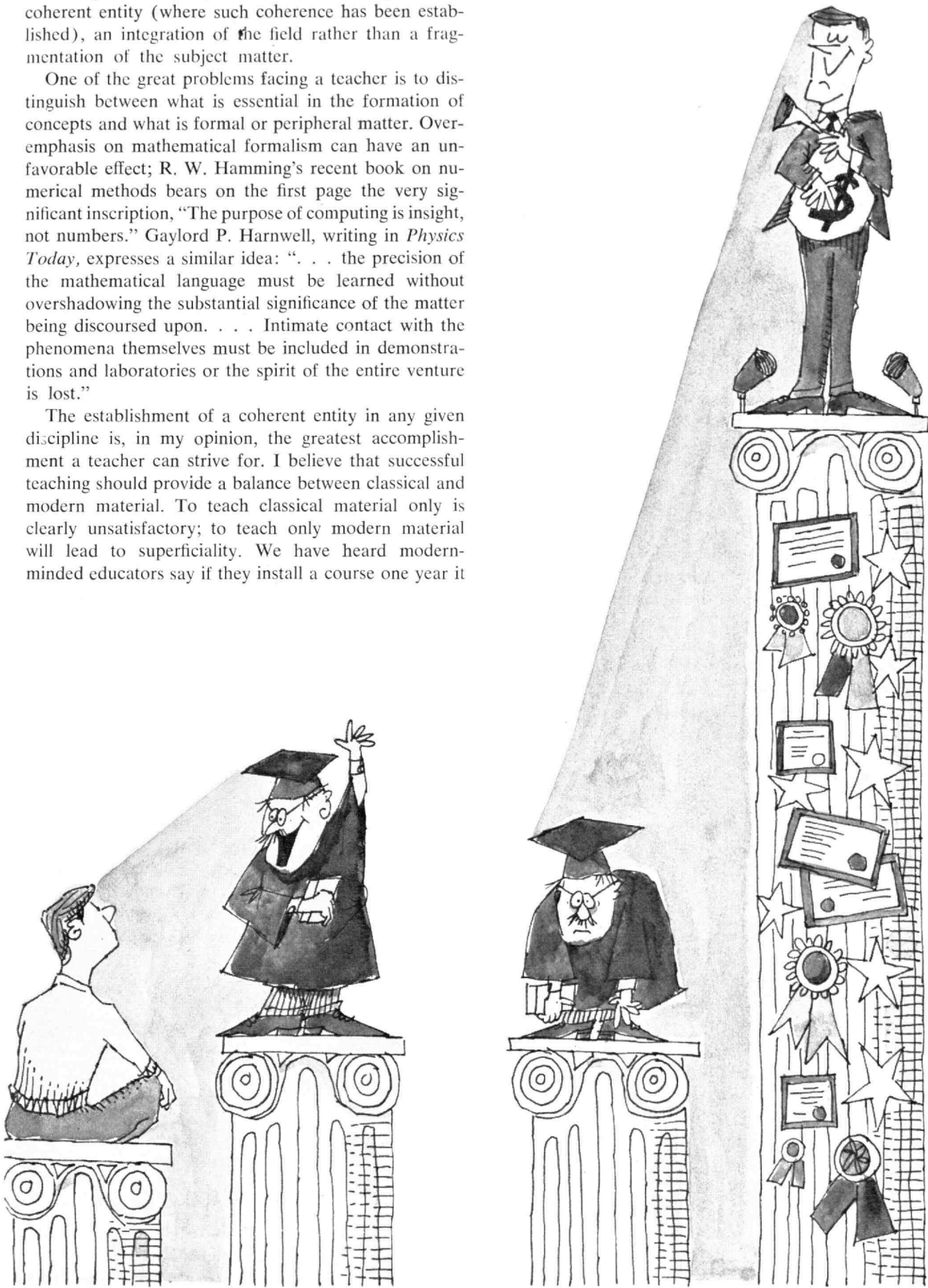


ILLUSTRATIONS BY DILL COLE

precise basic concepts. It should also convey to him a continuity of ideas, a presentation of a discipline as a coherent entity (where such coherence has been established), an integration of the field rather than a fragmentation of the subject matter.

One of the great problems facing a teacher is to distinguish between what is essential in the formation of concepts and what is formal or peripheral matter. Overemphasis on mathematical formalism can have an unfavorable effect; R. W. Hamming's recent book on numerical methods bears on the first page the very significant inscription, "The purpose of computing is insight, not numbers." Gaylord P. Harnwell, writing in *Physics Today*, expresses a similar idea: "... the precision of the mathematical language must be learned without overshadowing the substantial significance of the matter being discoursed upon. . . . Intimate contact with the phenomena themselves must be included in demonstrations and laboratories or the spirit of the entire venture is lost."

The establishment of a coherent entity in any given discipline is, in my opinion, the greatest accomplishment a teacher can strive for. I believe that successful teaching should provide a balance between classical and modern material. To teach classical material only is clearly unsatisfactory; to teach only modern material will lead to superficiality. We have heard modern-minded educators say if they install a course one year it





will be outmoded the next year. A course that is outmoded within a year is probably not worth being taught in the first place.

At a time when the number of publications has risen to such an extent that it becomes impossible even to read the abstracts, there is a great need for a logical integration of the numerous detail observations that are described in the literature. Without such integration there is no unified science, only a large storage of facts and figures that can perhaps be memorized by computers but that serve no useful purpose in a creative process.

Any furtherance in the teaching of a science, such as instrumentation, depends critically upon the establishment of a logical system. In instrumentation this is a tremendous task that exceeds the means of a single teacher and will require a managerial organization as well as the help of government agencies, research foundations, and teaching institutions.

Finally, good teaching should also convey that kind of motivation which stems from a genuine interest in the subject. The beauty of a scientific discipline that appears as a world of logic and justice is worth the investment of a lifetime of study.

As to teaching methods, the principal new techniques are primarily in program teaching, without or with the help of mechanical and electronic devices; the method offers an attractive possibility of conveying a large amount of material to a student and permitting him to acquire knowledge at his own pace. In addition, the activation of disciplines by teaching in the form of educational games has been introduced. However, one method—the student laboratory—seems to offer a particular attraction for modern teaching in the experiment-based sciences. Although student laboratories are operated in almost every department at every college and in many high schools, their specific purpose is not clearly evident. Slogans such as “learning by doing” explain nothing

and neither do they provide any direction to follow. Considering the large amount of a student’s time absorbed in such laboratories and the relatively high expense for equipment, it seems necessary to re-evaluate the problem of designing meaningful experiments that require no more than a reasonable amount of a student’s as well as a teacher’s time. In a project supported by the National Science Foundation, we are trying at M.I.T. to determine desirable features of a student laboratory in instrumentation. If properly designed, such a course can help considerably in the formation of concepts. A laboratory course teaches not only methods and instruments but also contributes to the understanding of the basic physical quantities by *experimentally manipulating* them, as distinct from *defining* or *mathematically manipulating* them. Besides, a well-designed student laboratory will also teach systematic thinking and experimenting.

One teaching method that is quite uncommon and yet has considerable potential, in particular in the field of instrumentation, is the technical exhibit. Exhibits are a form of laboratory demonstration and well-designed ones convey their lesson without the active participation of a teacher. Teaching of this type may well have its place in the future for the education of a large number of students and for postgraduate education. The difficulty with commercial exhibits as teaching aids is, of course, that most of them are not pedagogically oriented and organized and they overwhelm the visitor or student by sheer size and quantity of equipment and products.

Although we have made great progress in teaching and in understanding the learning process, there are also danger signs that indicate the development of conditions unfavorable to good learning. Our students have become increasingly grade-conscious: they do not learn in order to acquire knowledge and new concepts; they learn to get good grades and a degree. Not that this

trend is new; about 2,000 years ago the Roman author Seneca complained about it: "*non vitae sed scholae discimus*"—we do not learn for life but only for the school.

However, increased competition in the admissions to college and graduate school have worsened the situation, and if a student dares to follow an idea of his teacher or his own by studying it in a library for a few days, he runs the risk of failing his next quiz and of deteriorating grades.

These grades will follow him for years, in the armed forces, in governmental positions, or wherever a grade-conscious personnel manager who lacks the ability to form his own judgment has to make a decision. The situation is worse if a student fails an examination of a testing service, for then he has almost no chance for a new start in life. Wherever he goes, the admission offices will call the testing service by phone and ask for his rating. There seems to be no remedy for this situation, as long as the admission to any college or position is a matter of competition. What is more, the system is seemingly justified. A study made at the Bell Laboratories indicates a high correlation between college grades and good performance at work.

However, other studies seem to indicate a different trend; there are certainly numerous successful men who left school with medium or low grades. Harnwell also notes that, "Verbal and mathematical aptitude tests . . . correlate quite well with performance during the first few years in college. Validation of such tests . . . against the criteria of later performance as a scientist are very imperfect and inconclusive." There seems little doubt that grade-conscious studying lacks the enthusiasm that is necessary for creative accomplishments.

What about the teacher? Gilbert Highet has stated that a teacher must know his field, must love his field,

and must love students. I am in full agreement, but if we expect creative teaching, the teacher himself should be a creative personality. It is a fallacy, however, to assume that a creative personality must be a good teacher. Yet, I have never found a colleague, creative or not, who did not think himself a good teacher; this is true also of myself. Indeed, *everybody* is an expert in teaching by virtue of having once been exposed to it. Some of these experts would change their opinion if they gave an examination to test their teaching.

No teacher is a good teacher for every student. Students vary in their evaluation of a teacher and in their appreciation of different teaching methods. In an absolute sense a good teacher does not exist, for teacher and student must fit together. It is for this reason that a teacher, a department, even a university has a character to which some students respond and others do not. It has been suggested that a student should be matched to a university, on the basis of psychological tests. Probably such a matching process takes place anyhow in the admissions office on the basis of intuition on both sides. I would hate to force a student to a certain university on the basis of tests or psychological evaluation, just as much as I would hate to match a boy and girl on the basis of a computer-controlled process. To enforce "optimal matching" is, to me, an intrusion in the academic freedom and the rights of the individual.

As we can see, there is no single solution to the problem of providing a good system for creative education; in fact, there is not one problem but a multiplicity. I do not recommend asking the government for a large grant to revolutionize the field of education. That would be too easy. The problem at hand is much harder. It requires energy associated with open-mindedness and intellectual flexibility, a hard look at facts coupled with love for teaching, and devotion paired with patience.



# TEACHING IS BETTER THAN EVER

*Contrary to critics' views, the wellspring of vitality  
flows from research and dedication to society's tasks*

By James R. Killian, Jr., '26

Chairman of the M.I.T. Corporation

**T**he neglect of teaching has become a fashionable theme in current lay discussions of university education. Commentator after commentator has proclaimed that students are being shortchanged, that teaching has become a poor relation of research, and that teaching ability is inadequately weighed and rewarded by the universities. One of the causes most frequently cited for the neglect of teaching is dependence of universities on government research funds. The manner in which these funds are sought, allocated, and administered, say the critics, is compromising the autonomy, integrity, and independence of scholars and universities. Under the rubric, "The Treason of the Clerks," Gerard Piel lectured last April with alarm about current conditions in our universities. "The neglect of graduate teaching," he said, "presumably in favor of research, must inevitably reduce the quality of the research. . . . The principal casualty of the Federal grant system, however, is the undergraduate. . . . The burgeoning of project contract/grant research has downgraded the teaching function in all of these universities—with but a few notable exceptions—especially in the sciences and including even graduate education." Other commentators have charged that our system of higher education is now "rigged against good teaching."

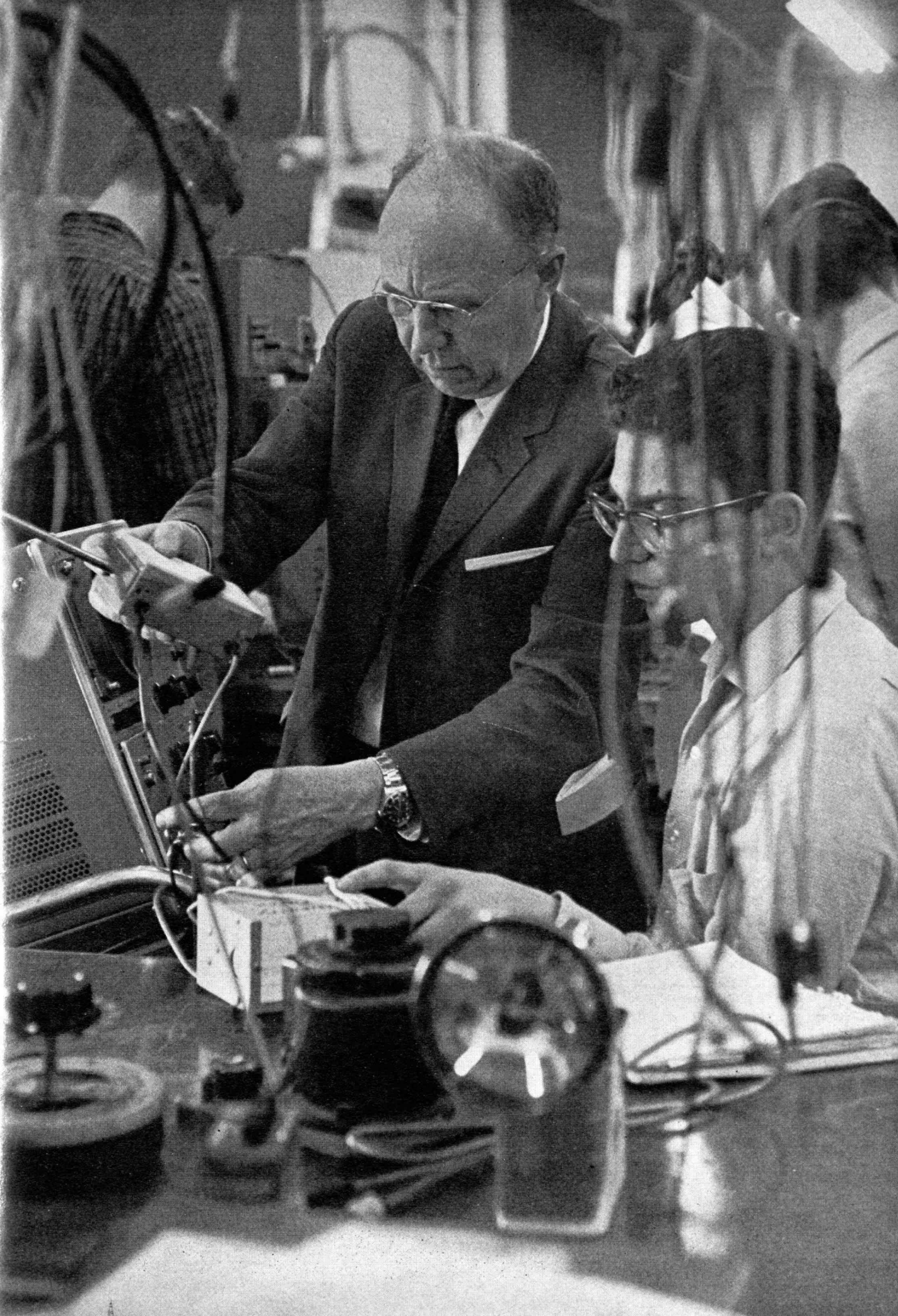
The critics have raised an issue which unquestionably demands constant attention from university administrations and faculty members. I salute them for their contribution to that ceaseless debate so necessary to the improvement of education. But the issue is far from being as black and white as they suggest. The "neglect of teaching" and the "flight from teaching" have become contagious clichés that glibly convey a one-sided view of university teaching, especially undergraduate teaching. There is much on the other side, and it is important

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to highlight the good if we are to pinpoint the bad. On balance, I firmly believe that the good heavily outweighs the bad, that the present emphasis on research in our universities has had the result in most places of improving the quality of teaching.

It is certainly true that the universities are currently confronted with many new challenges to the maintenance of good teaching. Enrollments have been growing faster than the number of adequately trained teachers. Our society tends steadily to assign new duties to the universities—as, for example, the current proposals that universities become agents of urban service and renewal. They are called upon to assist small colleges, carry knowledge to the people, run special programs for the disadvantaged, undertake curriculum development projects, and manage summer institutes to train teachers to teach the new curricula. The university's educational responsibility has been expanded by the growth of graduate and postdoctoral study and by the rapid increase in demand for continuing and refresher education. Along with meeting this wider spread of teaching responsibilities, faculty members, especially scientists, social scientists, and engineers, increasingly are called

Right: Professor Harold E. Edgerton, '27, famous for his accomplishments in engineering, at work in a student laboratory.



upon, as we so well know, to undertake public tasks as advisers and consultants and occasionally to serve as administrators and ambassadors. The domain of affairs demands ever more of the domain of learning.

Despite these demands, teaching has steadfastly remained the central mission of our great universities, and over the past several decades there has been improvement, spotty but steady, in the quality of their teaching.

Not only have the lay critics failed to recognize improvements in university teaching; they have tended to give the wrong reasons for the poor teaching that exists. They claim, for example, that sponsored research necessarily subverts good teaching. On the contrary, it can be a powerful aid to good teaching. It can minimize obsolete learning and the drab, anemic academism that comes to afflict universities when they are mainly "teaching factories." Teachers who do no research or who fail to deepen their mastery of their field are likely to become teachers of obsolete knowledge, and the first to find this out are the students themselves. As President Lee DuBridge of Cal Tech has written in a letter protesting an editorial in the *New York Times* on the neglect of teaching in the universities, "Heavy teaching loads without research opportunities lead not to good teaching, but to bad. . . . No university I know will condone a gross neglect of teaching by any faculty member. . . . Today some of the finest research scholars are doing outstanding teaching."

Neither is it true that the involvement of professors in outside activities is *ipso facto* harmful to their teaching. The work of professors as consultants and advisers can be a stimulant rather than a deterrent to good teaching. The experience they gain in outside activities, if it is truly professional, can impart authority and realism to their teaching.

Comparisons are frequently drawn between today's teachers and those of the past, usually to the disadvantage of contemporary teachers. I am skeptical of these comparisons. I suspect, moreover, that at least some of the glamorous teachers of the past, who won applause for their classroom manner and their charming eccentricities, may have lacked the creativity, precision, and depth of scholarship that today are regularly expected of the scholar-teacher along with the gift for inspiring students.

The purpose of teaching in the modern university is not merely to fill the student's mind with known facts, theories, and modes of thought; it is also, and more important, to stimulate him to teach himself, to learn by teaching others, to think creatively, to want to seek answers to questions as yet unexplored, and to learn the arts of doing so. I know of no better way to do this than to give him the opportunity to work with and under faculty members who themselves are engaged in seeking such answers—and who can, in consequence, impart a sense of intellectual adventure.

I have worked in a university environment for nearly 40 years, and at no time, despite the involvement of

faculty in a far wider range of activities, have I witnessed so much creative attention to teaching as there is today. I am sure that in the institutions I know, undergraduate education is stronger than it was when I was a student and when undergraduate teaching was the principal activity of the faculty. I am also sure that a rapidly growing number of teacher-scholars are finding a new mode of being creative in their efforts to devise innovations in the teaching process. I know from first-hand experience that leading universities have been making sustained, diligent efforts to recognize and reward creative teaching.

What are some of the specific innovations and improvements in teaching of which I have spoken? Because I know them best, I draw examples mainly from science and engineering.

First I would cite the curriculum reform movement which has produced the "new physics," the "new math," and so on and is now spreading to other fields. This revolutionary improvement in American education is not only invigorating and upgrading the quality of teaching in pre-college schools; it is now enabling, and indeed, forcing the colleges to advance the level of their studies and to give really creative attention to the reformation of their curricula. The striking fact is that this curriculum movement is being led by research scholars in the universities who have been joined by imaginative teachers in the pre-college schools. This team is rendered more powerful by the fact that the scholar has gained from his research the insights, the judgment of relevance, and the sense of taste and precision that enable him to impart scholarly integrity to the beginning curriculum. He also brings to the classroom the contagious and constantly renewed love of his subject which so frequently marks the research scholar.

Allied to this curriculum reform are the brilliant new college texts and other teaching materials which are the work of leading scientists resident in institutions deeply engaged in research. I point to undergraduate college science programs coming from Cal Tech, Berkeley, Illinois, Harvard, and M.I.T. I point to the innovations in undergraduate engineering education at Case, Stanford, Carnegie Tech, U.C.L.A., M.I.T., and a number of other engineering schools. I point to the Science Teaching Center at M.I.T. and to Educational Services, Inc., both innovative institutes for the improvement of teaching, launched as a result of university concern for the betterment of teaching. I point to some of the output of these institutes such as the brilliantly lucid films for teaching fluid mechanics and the new materials which present semiconductor technology adequately to engineering students, each project being sponsored by a national committee of research-gifted engineers. Faculty members of high research competence in the universities lead the development of these improved aids to teaching. And in these same institutions there is a continuous preparation and introduction of new subjects springing from research

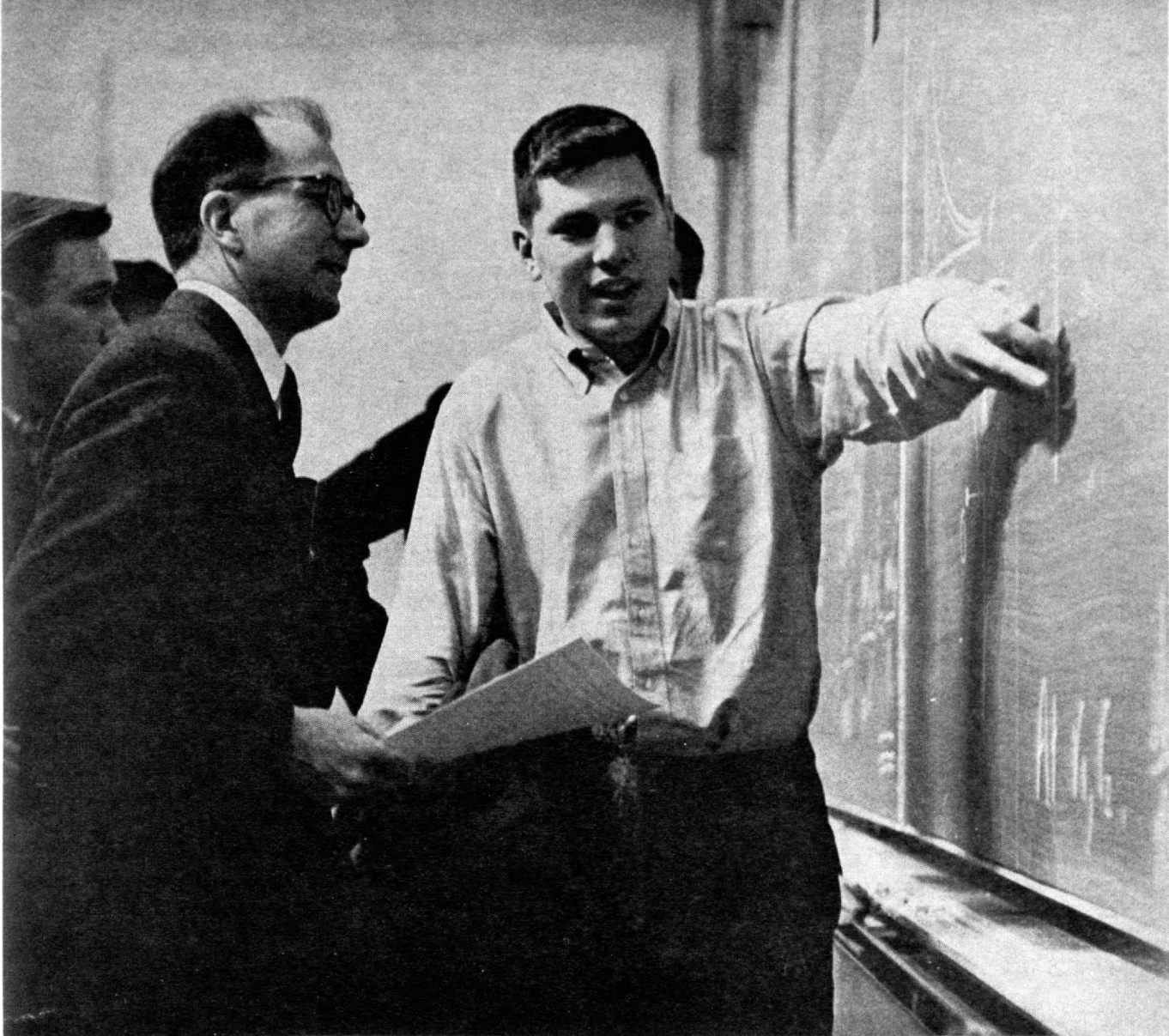


Photo by Owen D. Franken, '68

A nuclear physicist, Professor Anthony P. French now works on new methods of instruction in M.I.T.'s Science Teaching Center.

and new technology. In some engineering schools nearly half the subjects now being taught were not in existence a decade ago.

There is another kind of contribution which research makes to teaching. The presence of large research laboratories enables professors to bring young engineering students into fruitful contact with real-life engineering work, in the way that medical school professors bring medical students into teaching hospitals.

Undergraduates in both science and engineering increasingly have opportunities to gain research experience because, thanks to sponsored research, there are enough large projects to make this possible. In a number of institutions we find undergraduates, graduates, postdoctorals, and professors all working together in a single research laboratory. This involvement of the undergraduate in research is imparting new depth and power to undergraduate education. This kind of team research experience also increases the personal contacts between student and staff.

Another important commitment by senior faculty to undergraduate teaching is in the freshman seminars to

be found at Harvard and M.I.T. and, I am sure, at numerous other institutions. These seminars offered to freshmen by experienced faculty members provide first-year students with extraordinary opportunities to work with outstanding research professors and to gain insights into professional subjects that might not otherwise be available to them until much later in their college careers.

A criticism frequently heard is that senior faculty members are so busy with their research and other outside activities that the undergraduate seldom has the benefit of studying with the "great names." He is subjected, they say, to inferior teaching by graduate assistants and junior faculty. He thus loses the supposed benefits of attending a great university. Obviously, the number of "great men"—that is, those with long-established reputations—is always limited on any campus. In the universities I know anything about, the majority, if not all, of these professors share in undergraduate teaching. Inevitably their classes are large, because of the demands of the students, and thus they must be aided by teaching assistants to help overcome the impersonality of the large lecture hall.

As for the assignment of junior faculty and teaching assistants to beginning undergraduate courses, there is no reason to assume they provide inferior teaching for such courses. They may be more conversant with the latest developments in a wide field of study than the senior faculty member, who commonly becomes more specialized as his research interests narrow. Teaching assistants can bring to the classroom and laboratory an understanding of the undergraduate because they themselves were only recently undergraduates.

**T**he assignment of faculty to teaching, and their distribution among graduate and undergraduate courses, must be done with an eye to the most effective use of available talents. To assign senior men, whose reputations have been built on a combination of good teaching and their research contributions, to full-time teaching jobs would clearly destroy their effectiveness and limit their potential contributions. To deprive graduate students of the opportunity to work as teaching assistants to senior faculty would be to fail in one of the university's important functions: to provide an apprenticeship training opportunity for these future teachers.

The quality of undergraduate education depends in part on the time and thought given to the design and preparation of curricula and courses. As one of my colleagues puts it, the composing of a fine curriculum is as demanding as the composing of a fine symphony, and this arduous and artful work should be done thoroughly before the teacher and student come together in the classroom. Senior faculty who may not come into face-to-face contact with all undergraduates all the time may nevertheless contribute profoundly to their education by designing sound curricula and teaching materials.

In our graduate schools, of course, research and teaching are interwoven, and the enlarged research resources of American universities have given the United States graduate schools unexcelled anywhere in the world.

While I believe that the availability of federal funds for research has, on balance, served to strengthen our universities and to aid their central mission to teach, it is unquestionably accompanied by potential complications, if not dangers, for the universities. Since it has come to be, as the principal source of university research funds, such a potent trustee in relation to the university system, the government has a great responsibility to refrain from policies and procedures, especially in terms of its contracts and grants, which are corrosive to the spirit and life of the university. The universities for their part must be unremittingly vigilant in adhering to their academic ideals and in protecting freedom of inquiry. The nation has a right to insist on this, and critics do a service in so demanding.

I do not believe the record supports the contention that large funds for research—from government, foundations, and corporations—tend to weaken teaching. A growing percentage of the students who win fellowships for graduate study and gain admission to the leading

graduate schools come from the undergraduate schools of the research-active universities.

So far almost all the federal funds for university research have been allotted to the sciences, engineering, and medicine. If this large-scale involvement with the federal government were harming teaching as much as the critics claim, one would expect these fields to be less well taught or more neglected than other disciplines where federal funds are not available. There is no evidence that these fields have suffered relative to fields uncomplicated by government support. On the contrary, the incidence of teaching reform and advance seems greater in those disciplines which have substantial federal support. And I cannot refrain from noting that in several institutions that I know well, a great strengthening of the humanities and social sciences has occurred concurrently with a growth in sponsored research.

The critics to whom I reply have concentrated mainly on what is wrong with university teaching. To balance out, I have concentrated on a sampling of what is right. Obviously a true balance lies at some point in between. There are vast reaches of humdrum obsolete education in America. There is a desperate need for more innovation in teaching and for more institutions which encourage creativity in teaching as well as in research. We need more members of university faculties (in addition to those in the schools of education) who are working to improve the teaching of their disciplines both in pre-college schools and in college. We need more faculty members in our colleges and universities who are aware of the many improvements in teaching in pre-college schools and who build on this in their college teaching.

**T**here is also need for improvement in the status of the undergraduate and for more attention to the individual student. I am sure that it is possible to find some professors excessively preoccupied with research who shortchange the students and who by their outside activities fail in their obligations to uphold university ideals. A few institutions have had trouble with their priorities and have accepted federal grants and used them in ways that have detracted from both undergraduate and graduate teaching. These occasional excesses, however, should not be used to indict all universities.

American universities today are confronted by the hazards of hyperactivity, of rapid change, and of spreading their efforts too thin. Much now depends upon their achieving a wise balance of effort and a right choice of emphasis. Faculties must discipline and pace themselves in the face of the multiplying calls for service which fall upon them. They must accept a commitment to teach as compelling as their commitment to research. They must give first and unswerving commitment to the education and central status of their students.

Institutions must also learn to live with federal support, for both research and other activities, and have the courage to reject it if need be and to fight any threat

to their integrity, their aims, and their freedom. To meet all these requirements will be difficult, and fumbles and imbalances will inevitably occur as the system adapts to change and growth, but the current vitality and adaptability that I see in our university system seem to be a better insurance of success than would a more inward-turning, conventional, and placid academic life.

There are those who still think of the university as a monastic institution where staff and students, in a spirit of academic isolationism, pursue a kind of purist learning undiverted by contemporary events and free from economic and social entanglements. I stand with those who feel that our great universities and their faculties and students must adjust to "radically new relationships," especially those which involve the participation of the scholar in the contemporary tasks and social movements of our society. We must bend these involvements to the advantage of education. Actually, the

university, American style, can no longer hold itself aloof from social responsibility. This is the revolutionary change that has taken place in America in the relationship of the university to society. Lest I be misunderstood, let me hasten to say also that these same universities must and can be places where those scholars, young and old, who so choose can lead a monastic, unengaged, scholarly career and be protected, encouraged, and honored, and where they can find, if they choose, an environment kept as free as possible of distractions and pressures.

This enlarged role is attended by risks, but it is the glory of our evolving university system that it does not, out of fear of these risks, shrink from widened responsibilities. I hold that universities with this vitality and commitment can provide a better education than those which isolate themselves from contemporary society and ignore its needs.

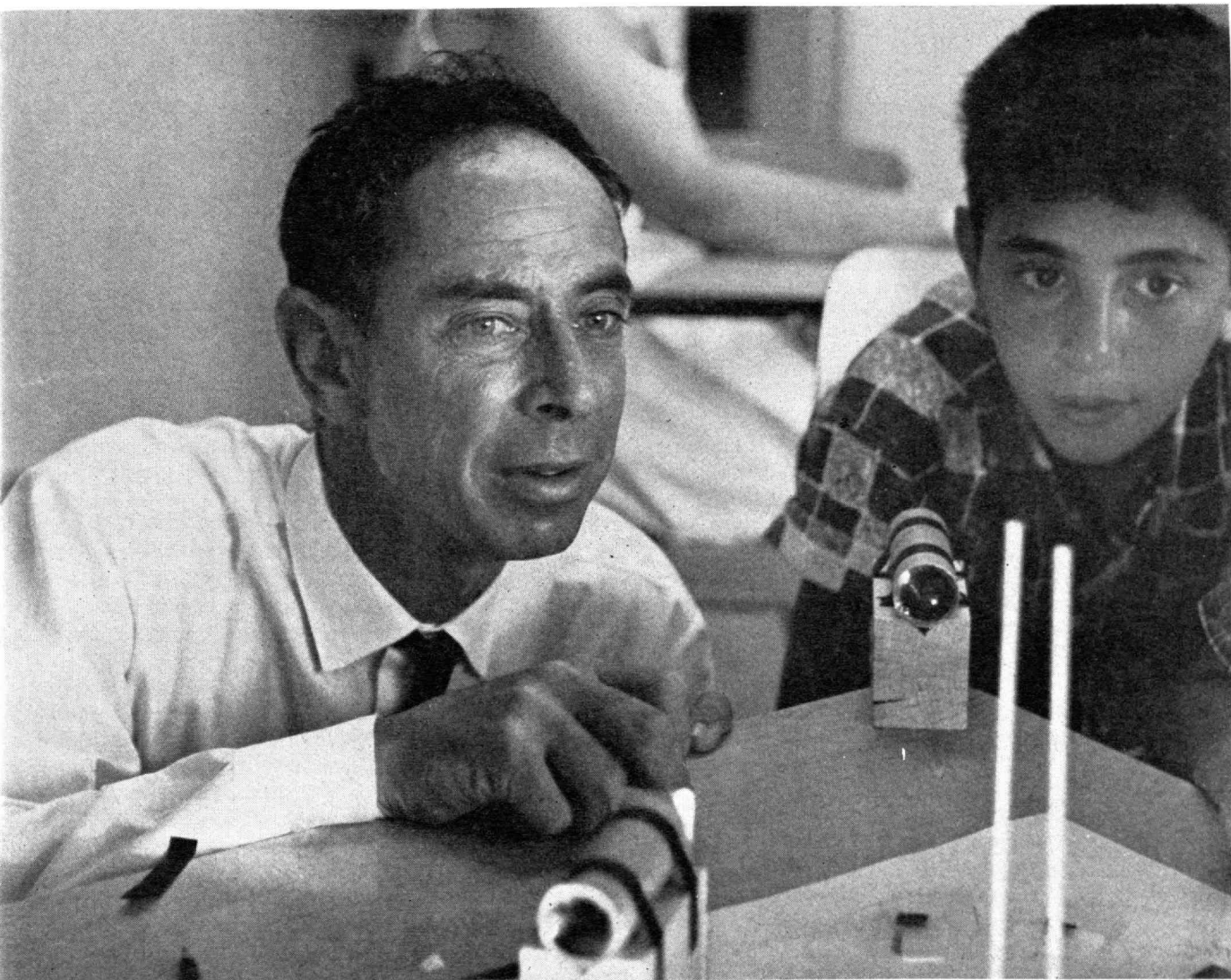


Photo by George Cope, from Educational Services Incorporated

Dr. Frank Oppenheimer of the University of Colorado conducts an experiment in light and optics. One of many senior scholars working on curriculum reform, he is a consultant to the Elementary Science Study of Educational Services, Inc.

*Guided by a teacher, students achieve a new advance  
in science and win unprecedented professional honors*

## THE SUPERPLASTICITY CASE

About three years ago, four students in a project laboratory in M.I.T.'s Department of Metallurgy received an exotic assignment. They were asked to do research on superplasticity, the phenomenon of unusual stretching or bulging of a metallic material.

They didn't have much to go on. Although Russian metallurgists had reported some interesting findings on the subject, scientists outside the Soviet Union had shown little interest in it. It was known, however, that superplasticity was associated with low or even vanishing strength in a metallic substance.

Guided and goaded by the professor who had given them the challenge, the students carried their investigations forward. Early experiments were not truly successful but they laid a foundation for four other undergraduates who took the laboratory course a year later.

One day while carrying out an experiment in a furnace, the second group had an exciting moment: As

they peered into the furnace, they saw the material suddenly bulge and puff up into a dome. Before long they were able to stretch metal samples by as much as 1,000 per cent beyond their normal length. Subsequently, the second team completed the assignment, was graduated, and in turn was replaced by still another group.

Unsupported in its early stages, today the work is backed by grants exceeding \$100,000. Curiosity about superplasticity has been stirred throughout the metallurgical world and a major corporation is using the M.I.T. development as a basis for testing superplastic alloys for use in machine covers.

What's more, the American Society for Metals announced last October that the medal it awards annually for the outstanding paper of the year would go to the professor who inspired the work at M.I.T. and to two of his students.

The teacher is Walter A. Backofen, '46, a former winner of the

ASM's "Young Teacher of the Year" award. For the students, the honors had a deeper meaning.

Ira R. Turner, '65, one of the authors of the prize-winning paper and an undergraduate at the time it was written, was the first undergraduate ever cited in an ASM prize-winning paper since the award was first given some 40 years ago.

However, at the time he came under the tutelage of Professor Backofen, Ira Turner was discouraged about his studies at M.I.T. Professor Backofen put him to work on the project and the young student devoted a good part of his time to it for more than a year. His interest was reawakened in other areas of study and he was graduated last year.

The other winner, Donald H. Avery, '59, was a member of the Division of Sponsored Research and a postdoctoral student at the time he joined the effort. He's been at it ever since. Today he is concentrating on

developing a theory of superplasticity and his efforts on behalf of the project were a factor in winning him a Faculty appointment. He is now an assistant professor of metallurgy at M.I.T.

Obviously Professor Backofen does not fit the profile of the contemporary university professor as drawn in a number of recent publications—a man bent on his own research, writing, consulting, and graduate teaching, a man who considers the undergraduate a cipher or at best a necessary evil. Rather, he is devoted to teaching, with an attitude that may help explain how an undergraduate group rose so successfully to a problem that might well frustrate working scientists.

"I didn't know where the project might lead," he says, "but I wanted to give the students an opportunity to exercise two or three years' accumulation of background in an unrehearsed, uncontrived, and spontaneous experience in the laboratory."—*Ellison Smith.*

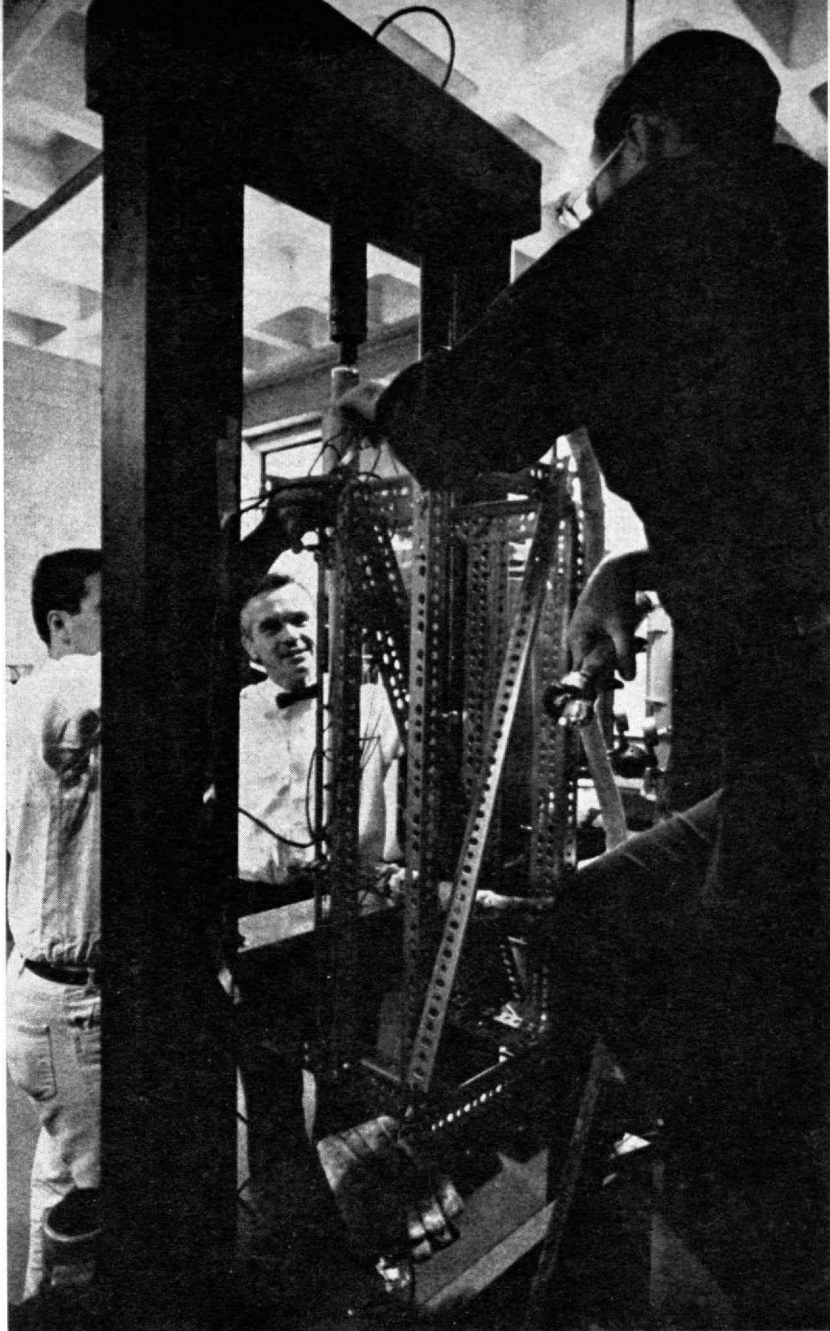


Photo by George Cope  
Professor Backofen, center, helping students at work with laboratory equipment for stretching superplastic materials.



NORBERT WIENER: Drawing by William English after a photograph by Y. W. Lee, '27

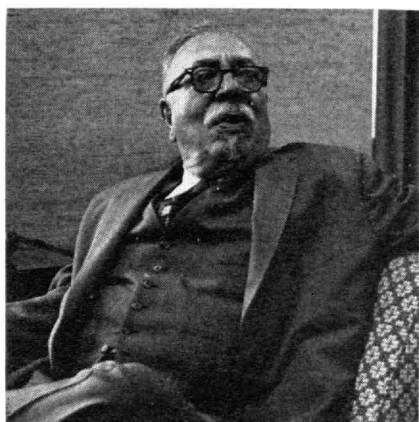
His temperament was always: *'Couldn't this be so?'*

# IN QUEST OF UNDERSTANDING

*His laboratory was a small discussion group, and there Norbert Wiener explored the farther verge of science*

By Gordon E. Olson and J. P. Schadé

*Central Institute for Brain Research, Amsterdam, The Netherlands*



*Institute Professor Norbert Wiener of M.I.T. went to Amsterdam in January, 1964, to visit The Netherlands Institute for Brain Research and there he and his colleagues discussed the publication of a volume on cybernetical and theoretical aspects of the nervous system.*

*Separately, his associates decided to publish the work as a celebration volume marking the 70th birthday of Professor Wiener, who was to select the contributors without knowing that their papers were to be written in his honor. Professor Wiener died in March of that year and the celebration volume became a memorial volume. The book, *Cybernetics of the Nervous System*, edited by Norbert Wiener and J. P. Schadé, has now appeared as Volume 17 of "Progress in Brain Research" (American Elsevier Publishing Company, \$14.50).*

*Its first chapter is a tribute to Professor Wiener and the article that follows consists of extracts from that chapter. It is published here with the permission of the publisher and the authors.*

It was one of Dr. Wiener's favorite occupations to sit amongst many kinds of scientists and together project whole systems of ideas to and beyond the limits of man's scientific understanding. The relaxed, untroubled atmosphere of a small discussion group was his kind of study-laboratory. One could talk with each other freely, could have time to think and to see something fit, and to make headway. People came into close association with each other; they affected each other. With clear scientific understanding and the right amount of imagination, people could become productive together in a *rhythm* of mutual participation. Wiener hardly ever got away from this.

But of course, this was Wiener's whole point, this mutual working together. Wiener had long brought people to the realization that in the natural world there exist a multitude of rhythmic phenomena which work together: it is a pooling-effect. Wiener always saw these rhythmic systems and this self-orientation and pooling behavior between them. Because he was able to supply mathematical formulae to such behaviors, he became a tremendous impetus to the scientific world.

The pooling effect between rhythmic systems he called 'Non-Linear Interactions between Independent Rhythms.' He meant by this that randomly distributed objects or particles in a state of rhythmic oscillation can affect one another through interactions between them, generally consisting of a feed-back of information, and because this effect is non-linear, it must be a pooling-effect. He found it in electrical generators; he found it in the electrical circuitries of computers; he found it in the biological organism (the application of control mechanisms to both machines and animals is the science of Cybernetics); in neurocybernetics and medical cybernetics he found further examples of control mechanism.

Members of our Laboratory can remember, just a short time before his death, when Wiener rose during a recent conference on neurocybernetics and reminded those present of something they probably knew from childhood, or what surely they had noticed anytime since on warm pleasant evenings in the countryside. 'Haven't you noticed that *frogs* all croak in unison? And fire-flies, they all flicker together. Haven't you noticed this?' he said.

The point Wiener was making was that here is an example of control mechanism in behavior among animals. Frogs and fire-flies probably have individual 'natural rhythms' of either croaking or flickering, but as a group, Wiener remarked, they only produce one synchronized rhythm. Here again was this pooling-effect, this control mechanism, where animals responded to each other.

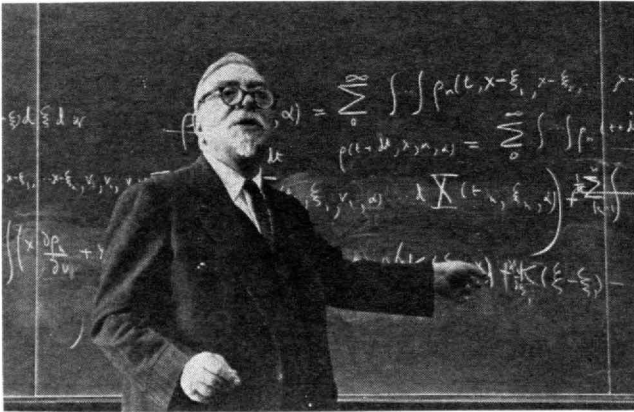
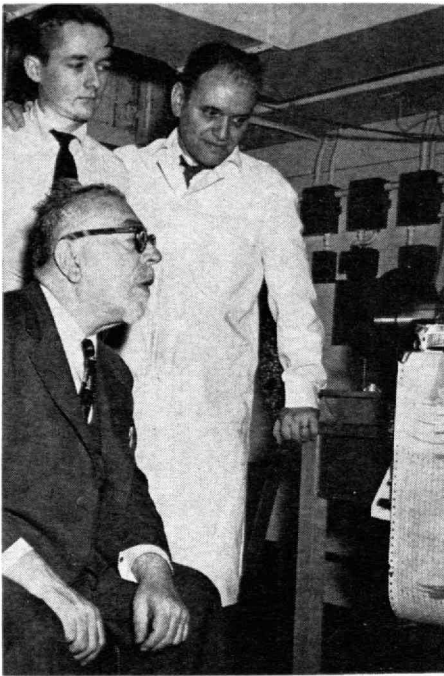
Some members of our Institute, with Dr. Wiener's participation, then began a set of experiments to test scientifically this pooling behavior of animals which Wiener had noticed in frogs and fire-flies. And what started out as just a small experiment later became one of significance, and for us one of particular emotional attachment, for it became the last scientific experiment of Dr. Wiener before his death. Though Wiener lived to see the first results of this work, most of the thorough experimentation and evaluation is not yet completed.

The idea was quite simple. Small chicks make soft periodic *peeping* sounds when left together in a cage. We would test for synchronization of these peeping sounds, to see if a control mechanism functioned. Chick peeping of isolated birds was first recorded into a tape recorder, to see if peeping was done in any pattern of constant rhythm. What we found was that chicks really do have definite patterns of peeping rhythms, so distinct that each bird could be type-classed (fast peeping, slow peeping, etc.). Here then was a biological example of a 'natural rhythm'; when not put together with others a bird has its own characteristic peeping behavioral pattern.

To test Wiener's basic idea, whether one could find a control mechanism which influences the change to synchronization of such natural rhythms when several birds are brought together, we then brought two birds together, then three, then four, six, ten, and so on.

Did the birds synchronize their rhythms of peeping into a group rhythm while in the presence of other birds? Yes, they did, very definitely. Though Wiener never saw the final summarization of this work, we found that a control mechanism is so distinct in the peeping of these birds, that one can make general statements about the degree of synchronization, dominance and recessiveness in birds, and optimal group size for distinct synchronization.

If one looks back at Wiener's long career, one notices that there has been a continuous line of this same kind of interaction and rhythmic synchronization in his own conduct. He talked with people, and in discussion groups gave them his ideas; they in turn shared with him their knowledge. It was always the same: a discussion, an ex-



At M.I.T., too, Professor Wiener preferred a small group, for work or for informal meetings like a game of chess.

change of ideas, and then the development of some new scientific understanding. Wiener was always creative in this way.

Being the international export from the Mathematics Department of Massachusetts Institute of Technology, he came to influence and stimulate a great number of people all over the world. In traveling to so many lands he saw no distinction between peoples; with scientific enlightenment he set no limits, being always in the process of adding new idea upon new idea; about science, he had long come to the conclusion that in no *real* sense are there separate branches within science, there being only special ways of looking at the same thing. His discussion groups consisted of learned men from all the sciences.

It is remarkable to compare the two careers of Wiener and of his early schoolmaster, Sir Bertrand Russell, the person Wiener always said gave him constant inspiration. In one aspect their careers are similar, and in another quite different. Wiener was the philosopher who turned mathematician, and for Russell it was just the other way around, the mathematician turned philosopher. Here we again see the inner-blending in people of mathematics and philosophy, and shifting from one of these viewpoints to the other only occurring when men are caught up in different issues of the day.

To the neurophysiologist many of Wiener's highly complex systems of mathematics perhaps at times appeared somewhat unreal. But one should remember that the scope of his insight had taken a long time to develop. And when he first came to realize the existence of control mechanisms in a biological organism, he was probably as dumbfounded at first as all of us. So it is very important for us to understand Wiener's mathematical approach to neurophysiology from a historical view of his work.

With quantum theory being established in physics, there was brought to light the high priority of statistics in the evaluation of natural phenomena. The code of absolute knowledge as it had existed before in classical physics had been reduced to the level of statistical probability. Statistical analysis was now made the essential tool for the physics scientist. Mathematics adjusted [itself] by the development of new systems of mathematical equations, mostly those of *transformations*, to allow one to follow particles' motions from one set of conditions to another.

One of Wiener's important considerations at this time was the phenomenon of *Brownian motion*, the familiar movement of particles over short distances. To men like Wiener (another was Einstein) who followed their pattern of motion, this interesting common phenomenon is an excellent model for the study of *randomness*. One tries with a set of mathematical matrices and equations to calculate the distribution of the particles. Wiener realized at that time that the analysis of these arbitrary existing movements was unimaginably difficult, but recently he remarked: 'That type of work is continuing now.' Another consideration of Wiener then was the phenomenon of *harmonic analysis* of particles. This is



related to the study of Brownian motion, and is the natural outgrowth from quantum mechanics' representations of matter in the form of wave functions. . . . harmonic analysis . . . clearly [represents] Wiener's earliest work in 'rhythmic systems.' This would later come to dominate all his work, and he stressed the importance for neurophysiology.

We can then see a growth pattern from Wiener's original work in Brownian motion: this led at once to the development of a system of statistical mathematics for the calculation of the *random distribution* of particles; with quantum theory's use of wave functions this gives a picture of *harmonic analysis*, and this sort of thing is just another way of saying a *rhythmic system* . . . one thing further is the dependence of these phenomena on the element of time; and for this element Wiener developed the mathematics of what he called *time series* for his theories on information and communication. What was needed now was a set of equations or transformation functions that could relate all these purely theoretical considerations to a practical problem. This important link between theory and practical application Wiener was able to supply with his work on Fourier analysis, which he published in the book *Fourier Integral and Certain of its Applications* in 1933. It turned the tables on complete theory and established a firm footing for practical, statistical analysis. Wiener had reached a milestone.

In the succeeding years up to about 1943, Wiener's career was one of expansion. He was continuing his work on developing mathematics on the principle of feedback for the building of computer systems. His habit of going off on great wandering scientific safari took him to the Tsing Hua University of Peiping, China, for a one-year appointment as Visiting Professor. As the continuously rebellious philosopher, Wiener published such articles as 'The Homogeneous Chaos,' but also 'The Use of Statistical Theory in the Study of Turbulence Nature.' He lent assistance towards the development of aiming devices for the military during the war, but when offers were made to him to join in the effort to produce the destructive H-bomb, he said he would not be available. Science is not the pawn of destruction, [that] was his defiant position.

One can point to the year 1943 as the beginning of Wiener's final decisive period of accomplishment. This was the year the original small group of outstanding scientists—physicists, engineers, mathematicians, and physiologists, began holding their first discussion groups for the purpose of advancing the new application of control principles . . . to the biological organism. [To] this new kind of study, which *pooled* men from all branches of science, Wiener in 1947 gave the name CYBERNETICS (the Greek word meaning steersman, or its stem meaning *governor*). Besides Wiener those originally participating were such men as: Dr. Arturo Rosenbluth, Dr. Warren McCulloch (Medical School, University of Illinois) [now at M.I.T.], Dr. J. von Neumann (Institute for Advanced Studies, Princeton), Mr.

Walter Pitts ['58] (later associated with M.I.T.), Dr. I. Aiken (Harvard University), the late Dr. Walter B. Cannon and Mr. Julian H. Bigelow ['35]. From the work of these early men, the great reservoirs of knowledge in physics, mathematics, and engineering for the first time started spilling over into the biological sciences.

Wiener's latest thoughts about the function of the brain were characteristically the combination of contemporary knowledge and searching imagination. They were constant towards the application of control principles [but], within this pursuit some of his concepts had changed. And new ideas had been added. His concern was to look ahead. "You don't mind my talking science fiction with you, do you?" Wiener asked the Thursday afternoon discussion group in neurocybernetics, several months before his death. An amusing thing about Wiener was how he would approach a new idea of his. 'I don't say this is true,' he would prefix himself. And afterwards he might say, 'What do you think of such wild ideas?'

Wiener was first concerned with the types of neurophysiological phenomenon one deals with in applying control mechanism principles to the brain. His earlier thoughts had centered on the evaluation of cortical 'alpha rhythms.' These types of constant rhythms, which must be the product of millions of cortical neurons, suggest a high degree of synchronization between these neurons: Wiener saw that a control mechanism must function here.

While electroencephalography has never been able to characterize all the various patterns of brain waves, this basic alpha rhythm at about 10 cycles per second is easily recognized. There must be a high degree of orientation of individual neuron 'natural rhythms' for this to be produced. The question Wiener now raised is: Are these rhythms the same as you find throughout the nervous system, following known laws of nerve function, such as the all-or-nothing law. Answering in the negative he found that there must be some *other* phenomenon which exists in brain function, something which we hadn't been able to measure yet. His reasons for thinking this can be understood from our present-day knowledge. Wiener expressed the belief that whereas the all-or-nothing law applies for the long, myelinated nerve fibers in the body, some other law must function for the short branches of these neurons. A full 'spike' potential complex cannot develop over short distances of branches, and what one is dealing with here are impulses of all degrees of complexity.

In Wiener's belief, the property of brain waves is one of *highly specific micro-radiation*. The reason why such radiation has not yet been recorded is that it is of a very small quantity. As Dr. Wiener said to us: "My idea is that we do have radiation within the nervous system but for a very short range. What you will ultimately get is a radiant phenomenon which is of such short weak range that you don't get it to the outside. Alpha rhythms then could be thought of as the synchronization of micro-radiation of individual neurons. The concept fits with

(Continued on page 44)



## Put yourself in Pedro's place and decide what you would do!

Pedro Rodriguez is a resourceful 8-year-old who lives in New York City.

Last spring, Pedro went to spend his Easter vacation with relatives in Boonton, N. J. A few days later, he grew homesick, so he slipped away on the bicycle he had with him and started for New York.

After seven long hours of pedaling through strange streets and towns, he realized he was hopelessly lost. It was ten o'clock at night and he had only 15¢ in his pocket.

Through the darkness, Pedro saw the friendly light of a phone booth, dropped his lone dime in the slot and dialed "Operator." Mrs. Anna Appleton, Night Chief Operator in Bloomfield, N. J., took over the handling of his call.

Pedro knew few English words and Mrs. Appleton couldn't understand his frantic Spanish. But her calm

voice reassured the boy and she held him on the line while she enlisted the help of a Spanish-speaking student at a nearby college. Patiently, they pieced together Pedro's story.

But how do you find a boy in a booth who has no idea where he is? Mrs. Appleton knew only that the call must be coming from one of five adjacent communities. In quick succession, she called the police in each town and asked them to check.

The Fairfield police found Pedro in a booth only a block from their headquarters. His mother came to get him and the story had a happy ending—thanks to a boy who knew enough to dial and an operator who lived up to the Bell System's long tradition of serving and helping, whatever the need.

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# **T**HE TREND OF AFFAIRS

## **M.I.T. Receives \$8,000,000 For International Studies**

M.I.T. has received a grant of \$8,000,000 from the Ford Foundation to strengthen and expand the Institute's educational and research activities in international fields. The grant includes \$4,500,000 to be used over a five-year period for a variety of teaching and research efforts that extend from civil engineering to political science, the oldest and newest departments at M.I.T. It will also provide \$3,500,000 to endow seven new professorships which will be filled by outstanding scholars whose interests emphasize the international aspects of such areas as political science, economics, contemporary history, management, and urban planning.

The scope of the program is indicated by the fact that the grant will be administered by a new M.I.T. Committee for International Affairs that will include the Deans of M.I.T.'s five academic Schools, according to Charles H. Townes, Provost.

"M.I.T. is a new kind of university whose roots lie in the scientific tradition, but whose interests extend selectively over the whole field of human experience with particular emphasis on those areas influenced by the continuing scientific and technological revolution," Dr. Townes said.

"It would be hard to date the beginning of M.I.T.'s interests in international affairs, especially since science itself has traditionally been a distinctively international activity. Yet it is clear that in the years since World War II we have given steadily increasing intellectual attention and financial support to teaching and research of special relevance to these matters.

"Over the past year there has been an Institute-wide study of the interests and commitments of all our Schools in international affairs. Out of this study came a plan both to strengthen further these activities and to enhance, wherever possible, the beneficial effects of their interaction. It is on the basis of this Institute-wide plan that the Ford Foundation has made this generous grant.

"Out of this program should come new contributions toward educating our undergraduate students, who will continue for the most part to enter fields of science and engineering, to play ever more effective roles in the shaping of modern society. It should also enhance the interrelations among our various international programs and give a new cohesion to our total Institute activities in these areas. It will extend our capacity for graduate student activity, especially in political science and economics," Dr. Townes said.

A major portion of the Ford grant will be used to support studies in the social sciences in such areas as international communist affairs, economic and political development, science and international policy, and national security. Much of this research will be carried out under the aegis of the Center for International Studies. The establishment of this interdisciplinary Center in 1951 represented M.I.T.'s first major commitment to work in international aspects of the social sciences and

since its founding the Center has published nearly 100 books on subjects as diverse as international space policy and the Communist Party of North Viet Nam.

The engineering activities that will receive support under the grant will include the continuation of the Inter-American Program in Civil Engineering begun by that Department four years ago. In addition, the School of Engineering expects to undertake applied and basic technological research in underdeveloped areas, to support visiting foreign scholars, and to initiate educational assistance activities overseas.

The Ford grant will also give broad support for research in other schools and departments. Faculty in the Alfred P. Sloan School of Management will be able to carry out expanded research in such areas as trade, marketing, finance and management methods and to bring foreign management leaders to M.I.T. Members of the Departments of Architecture and City Planning will be undertaking work on low-cost housing and urban development for emerging areas, and the Department of Humanities will receive support for education and research in contemporary international history. The Ford funds also provide for expanding the international collections in M.I.T.'s several libraries.

Over the last 15 years, M.I.T. has had increasingly extensive international commitments, particularly in the training of future leaders from foreign countries. The student body this year includes 207 undergraduates and 722 graduate students from 72 foreign countries. This amounts to 12 per cent of total student enrollment, the second highest foreign student ratio at any American university (Howard University is first). In addition to foreign students, M.I.T.'s teaching staff includes 134 professors, instructors, and lecturers from other nations, while the research staff includes 410 from overseas.

M.I.T. has several other programs that involve overseas operations. M.I.T. is one of several U.S. universities that have helped to establish an institute of technology at Kanpur, India, and M.I.T. professors regularly are loaned for a year or more to serve on the Kanpur faculty. The Alfred P. Sloan School of Management carries on two overseas programs—one to help establish the Indian Institute of Management in Calcutta and the other, the M.I.T. Fellows in Africa Program.

## **New Court and Sculpture**

A new court with a large stabile by Alexander Calder will be created this spring on M.I.T.'s East Campus. President Julius A. Stratton, '23, said the area has been named in honor of Mr. and Mrs. Eugene McDermott of Dallas, Texas, whose generosity made the project possible. Dedication is scheduled for May 7.

McDermott Court will be bounded by the Cecil and Ida Green Building, Hayden Library, Walker Memorial, undergraduate dormitories, and a future building for chemistry. Its focal point will be the Calder work, a 40-foot-high steel sculpture entitled "The Big Sail." Next month The Review will carry a report on the court and on the artist and his works.



Dr. Friedrich-Wilhelm Gundlach with President Stratton in academic ceremonies at the Technical University of Berlin.

## The Strattons in Berlin

President Julius A. Stratton, '23, visited Berlin last January and in a special academic ceremony was made an Honorary Senator of the governing body of the Technical University of Berlin.

Addresses by Dr. Friedrich-Wilhelm Gundlach and Dr. Paul Hilbig, respectively Rector and Prorector of the University, paid personal tribute to M.I.T.'s president on the occasion. In response, Dr. Stratton noted that the meeting mirrored "the community of interests that link" the German university and M.I.T.

"It reflects the fruitful exchange of ideas that is taking place between our two institutions," he added. "We are working toward comparable goals. We are striving along parallel roads to meet the tremendous, the awesome challenge of the future." Dr. Stratton's remarks referred to a five-year program for exchange of faculty members that M.I.T. and the Berlin university started in 1964 with a grant from the Ford Foundation.

Dr. Stratton was accompanied on the trip by Mrs. Stratton and they paid visits also to John A. Calhoun, the American Minister, to Berlin Mayor Willy Brandt, and to Major General John Francis Franklin, Jr., commanding officer of American forces in the city. In addition, they toured both West and East Berlin, visited the Free University and attended a reception at the Berlin Academy of Arts.

## Eastgate Apartment Tower

Construction is under way at M.I.T. on a \$4,000,000 apartment building that will tower 30 stories over Cambridge's Kendall Square. Known as Eastgate, it will provide 216 efficiency, one- and two-bedroom apartments for married students and Faculty. The building will be integrated architecturally with the adjacent Alfred P. Sloan Building at 50 Memorial Drive and the recently completed Grover M. Hermann Building, and together they will form a complex designated as the Sloan Campus. Foundation work is under way now and final completion of the tower is expected by the late summer of 1967.

The residence tower will give the Institute needed additional housing facilities for married students on the campus and by incorporating some facilities for Faculty members and their families, the Institute hopes to enlarge opportunities for close interaction between teachers and students. M.I.T.'s only other on-campus facility for married students is the 210-unit Westgate.

The building's cast-in-place, exposed architectural concrete will complement the Sloan and the Hermann buildings and a raised plaza around the tower's base will join a similar plaza around the Hermann Building. Facilities will include rooftop lounge areas, top-floor laundry rooms, and an enclosed play area for children.

Architects are Professor Eduardo Catalano of the M.I.T. Department of Architecture in association with E. Crawley Cooper, '59, Robert Brannen, and Paul Shimamoto, '61, Cambridge architects.

Eastgate is financed under a self-liquidating loan from the Community Facilities Administration of the federal Housing and Home Finance Agency and by an anonymous gift to the Institute.

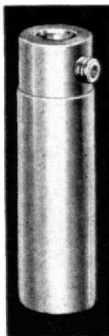


Model shows relationship of Eastgate and Hermann Building.

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## **T**HE TREND OF AFFAIRS

(Continued from page 37)

### The Challenge of the Cities

No one living even briefly in today's Greater Boston can fail to sense the problems of urban America. M.I.T. students experience them daily, and from this reality many have drawn deep concern:

"For those of us residing in the grey industrial wasteland that is South Cambridge, the urban experience is an integral part of our everyday lives. We all struggle to cross Massachusetts Avenue, brush the cinders off our clothes, jostle through the rush-hour crowds.

"Some of us look at the city, walk along the Charles and watch the sailboats out across the water, see the sunset glisten golden off the State House dome. Some of us listen to the city, wait at Park Street for the Harvard train and hear the accents of Brattle Street mix with those of Ashmont—a contrast of two very different worlds. Some of us think about the city, about why Cambridge seems so threadbare and worn, about . . . what it means to bus Negro kids to Brookline and Lexington, perhaps even think about what a city could or should be like."

These sentences by Norman I. Fainstein, '66, and Stanley A. Feder, '66, are from the prospectus for "The Urban Challenge," a major student-sponsored inter-collegiate conference scheduled for April 13 to 16 at M.I.T. More than 140 delegates from as many campuses are expected for discussions of three pressing issues in urban affairs: urban renewal, transportation, and the future of the metropolitan environment.

The student sponsors of the conference, of which David S. Mundel, '66, is chairman, believe that solutions to urban problems will come from interdisciplinary views that combine the social, economic, political, and technical aspects of urban development.

As of February 1, the speakers' list for the conference included:

Lyle C. Fitch, President of the Institute of Public Administration and former Administrator of the City of New York; John T. Howard, '35, Head of M.I.T.'s Department of City and Regional Planning; John F. Kain, Assistant Professor of Economics at Harvard University and an expert on urban transportation; John C. Kohl, Executive Vice-president of the American Transit Association.

Other speakers will be: Rush B. Lincoln, Jr., '35, General Manager of the Massachusetts Bay Transportation Authority; Edward J. Logue, Administrator of the Boston Redevelopment Authority, under whose administration the B.R.A. has launched a bold program of urban improvement; Robert A. Nelson, Director of the U.S. Office of High Speed Ground Transportation, who is responsible for the federal programs to improve interstate transportation in the northeast; Louis Sauer, Philadelphia architect and consultant to the Redevelopment Authority of Philadelphia and other government groups; and James Q. Wilson, Director of the Joint Center for Urban Studies of Harvard and M.I.T.

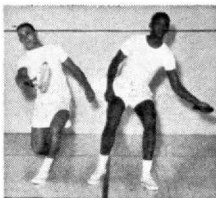
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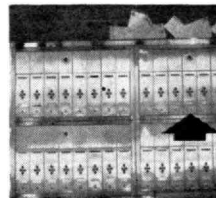
CLASS OF '66



CLASS OF '65



CLASS OF '64



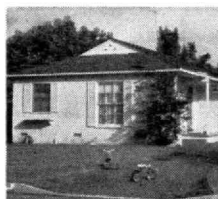
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The box below permits a chemical engineer, just for kicks, to test himself for possible interest in our kind of problems. Bright M.E.s, E.E.s, and other engineers will pick up enough of the general idea to transpose the test to their own fields of competence. The next step would be to drop us a line about yourself and your ambitions. If mutuality of interest develops and if the mundane matter of compensation should come up, we feel that now and far into the foreseeable future we can afford the best.

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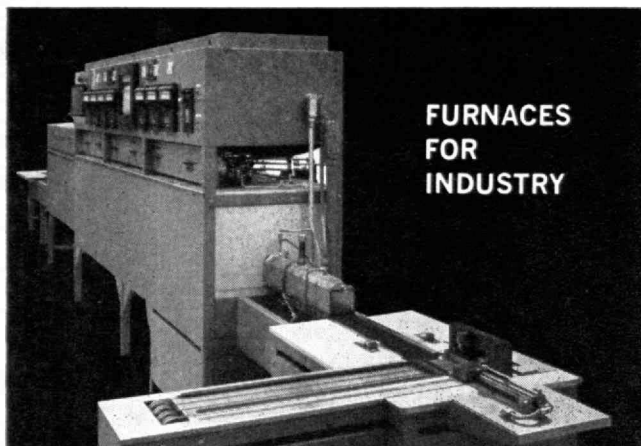
with a trace of acid catalyst drives off first  $(\text{CH}_3)_2\text{C}=\text{CH}_2$  and then  $\text{CO}_2$ , leaving  $\text{CH}_3\text{COCH}_2\text{R}$ . With the cheaper acetoacetate esters for making ketones, there is no such neat cleavage. There the ethyl or methyl group has to be hydrolyzed off, and if R happens to be hydrolysis-sensitive itself, poof goes the yield. This same readiness of  $\alpha$ -alkylated tert.-butyl acetoacetic esters to split out isobutylene and then decarboxylate opens up promising routes also to carboxylic acids, pyrroles, pyrazalones, uracils, and coumarins.

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THE TREND OF AFFAIRS

(Continued from page 38)

## A New Editor for The Review

John I. Mattill, Director of M.I.T.'s award-winning Publications Office, has been appointed as the 11th Editor of *The Technology Review*. He will move to his new position this summer, replacing Volta W. Torrey, who resigned last January to join the National Aeronautics and Space Administration.

Cited recently as "a champion of graphic design for college publications," Mr. Mattill comes to *The Review* with an impressive record of accomplishment established during his 18 years at the Institute. Under his direction, M.I.T. publications have come to be judged as outstanding among those of American colleges and universities. Last year, the New England District of the American College Public Relations Association gave him a citation of special recognition, naming him "a persuasive spokesman for visual excellence." And in national ACPRA competitions in 1964 and 1965, the Institute's publications won highest honors.

Last year, M.I.T. publications—almost alone among those of educational institutions—were selected by juries for most of the principal exhibitions of graphic arts during the year, and one writer called them "a model for institutional graphics."

Mr. Mattill was graduated in 1943 from Carleton College in Minnesota and received his master's degree from the State University of Iowa, where he was a writer in the field of physical sciences for the University Information Service. He came to M.I.T. in 1948 as Assistant Director of the News Service and became Director of Publications in 1952.

The new Editor is a member of the National Association of Science Writers, the American Alumni Council, and ACPRA, for which he was director of the New England District in 1957. He has been a member of Sigma Delta Chi and the American Society for Engineering Education, and in 1952 was chairman of the latter's Public Information Committee. He is treasurer, trustee, and a member of the Executive Committee of Editorial Projects for Education, Inc., and is co-chairman of the ACPRA National Honors Competition for the current year.

## On Controlling Local Wars

Under a \$222,500 contract with the U.S. Arms Control and Disarmament Agency, researchers at M.I.T.'s Center for International Studies will make a preliminary study of the applicability of arms control concepts to local conflicts.

The study is under the direction of Lincoln P. Bloomfield, M.I.T. Professor of Political Science. He and his associates plan to analyze the problem of "reducing the risk, limiting the intensity or facilitating the cessation of local-type conflicts . . ."

The study will concentrate on the problem of local wars in Africa, the Middle East, Latin America, and Asia.

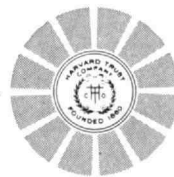
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*This photograph was taken near Kresge Auditorium in Cambridge, just minutes away from a Harvard Trust office. There's one just minutes away from you, too.*

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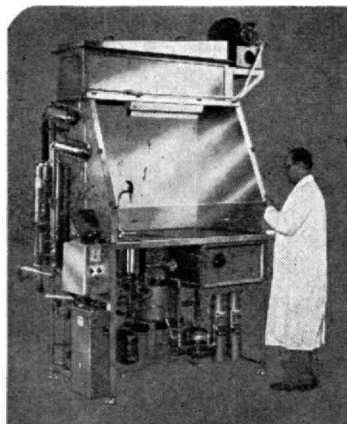
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THE TREND OF AFFAIRS

(Concluded from page 40)

## Tuition Increase

The M.I.T. Executive Committee, acting on behalf of the Corporation, has authorized a \$200 increase in tuition for 1966-1967, bringing the total to \$1,900. The step was made "under the heavy pressure of rising costs and in the light of projected future deficits," said President Julius A. Stratton, '23. During the last year, educational expenses directly related to tuition continued to rise, and Faculty salaries, innovations in curricula and teaching, and other related expenses will require additional financing, he said.

Even after the increase becomes effective, income from tuition will cover but a fraction of the cost of educating a student at M.I.T., said Dr. Stratton. "As in the past," he added, "the major part of the Institute's expenses will continue to be met by endowment income, by gifts and grants and by other means."

As a countermeasure to the increase, the Institute authorized an increase of more than \$800,000 in its annual scholarship awards. "This increase far exceeds on a proportional basis the change in the tuition fee and moves us much closer to our ultimate goal that no qualified student need be denied an M.I.T. education because of financial need," said Dr. Stratton.

Besides the \$1,600,000 that M.I.T. will award in scholarships, about \$750,000 in scholarships from outside sources will be available and loans to undergraduates may amount to as much as \$900,000. Dr. Stratton said the total of both scholarships and loans for undergraduates is expected to exceed one half of the total tuition paid by students.

Director of Student Aid Jack H. Frailey, '44, said that half of the Institute's undergraduate students receive some assistance now, and added: "We anticipate that this proportion will increase next year since for the first time it will be possible for us to meet the need of all M.I.T. undergraduates."

## Scholarship Honors Technician

M.I.T. has established a scholarship in memory of Arthur C. Reid, of Avon, Mass., a young technician killed last summer in an explosion and fire in the experimental hall of the M.I.T.-Harvard Cambridge Electron Accelerator.

Reid was the son of Mr. and Mrs. John H. Reid, of 33 North Main Street, Avon. He was born in Framingham, Mass., and was graduated from Avon High School in 1963. He was employed at the M.I.T. Laboratory for Nuclear Science in February, 1964.

At the CEA, Reid was assisting M.I.T. physicists in an experiment that involved a hydrogen bubble chamber designed to study sub-nuclear debris left over after bombardment of hydrogen nuclei by the beam from the accelerator. He was near the bubble chamber, which was being filled with liquid hydrogen, at the time of the explosion. Seven others were injured in the accident, the exact cause of which has not been determined.

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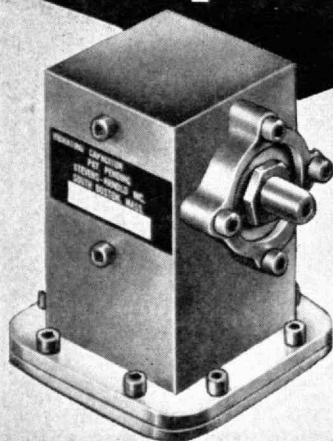
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## In Quest of Understanding

(Continued from page 34)

quantum analysis where wave functions are used to characterize vibrating particles. The next point to consider is how are these specific micro-radiations produced? The factor would have to account for the control synchronization of alpha rhythms. This is just a suggestion: *nucleic acid complexes*. It may be a phenomenon of this type of crystalline vibrations at a high frequency that a resonance phenomenon tends to pull one another together. An interaction between such crystalline nucleic acid complexes in neurons very likely falls under a control mechanism, as the specific frequencies of vibrations of radiations of these complexes could cause a resonance effect. The reason why these nucleic acid complexes are so important is that they are the basis of *memory* in the brain tissue; this follows directly from the fact that all crystalline structures have *specific* spectrums of vibrations, and therefore could answer the specificity of memory."

What influence this new concept of nucleic acid complexes which store 'memory' information will have on computer systems could be of great significance. "This is another wild conjecture. Why couldn't these memory particles be used as initial memories in machines? Why can't the next step in automation after transistor, solid-state memories be *nucleic acid memories*? Maybe that will come in twenty years, but that is much too long a time, I believe." Wiener's idea was directed towards supplying the means for building future computers with a much higher information-storage bit index. Large amounts of information could be stored on nucleic acid complexes over micro-distances. Dr. Wiener found that his ideas about specific types of radiation associated with nucleic acid complexes randomly scattered within neurons, when applied to encephalography, should bring about productive results. "Encephalography has been too much in recognizing wave patterns subjectively. Too little has been done for determining what actually happens there. . . . We have not done enough work making atlases of frequency distribution. . . . This method is looking for specific numbers."

As he continued into cybernetics, the ramifications of his thoughts into the biological sciences brought him to a growing awareness of the social implications of his work. He became concerned with the impact of automation on industry, and began consulting with labor leaders to bring about better understanding of it with them. And he participated in the field of medicine. People are well aware of Dr. Wiener's persistent work towards developing artificial prostheses for the rehabilitation of paralyzed limbs. This seemingly insurmountable project is to use the remaining receptor organs and nerve fibers in a paralyzed limb or one that has been amputated and, by means of an electrical computer apparatus, resupply the missing nerve activity and restore the limb to normal function. This would use feed-back looping mechanisms between the various neural, muscular, and electronic

structures; a full reconstruction of reflex pathways could be anticipated.

A complete account of Dr. Wiener's work is not possible at present, for a great portion of that work continues to exist in the present, and will continue into the future. Only in the future will there be the complete resolution of all the things Wiener participated in and contributed to. Wiener's long scientific career is a model of creativity. He participated best in the quiet small study group, where the brew of coffee and ideas went together. His temperament was always:

*'Couldn't this be so?'*

## Books You Should Know About

Recent publications especially likely to interest M.I.T. Alumni have included:

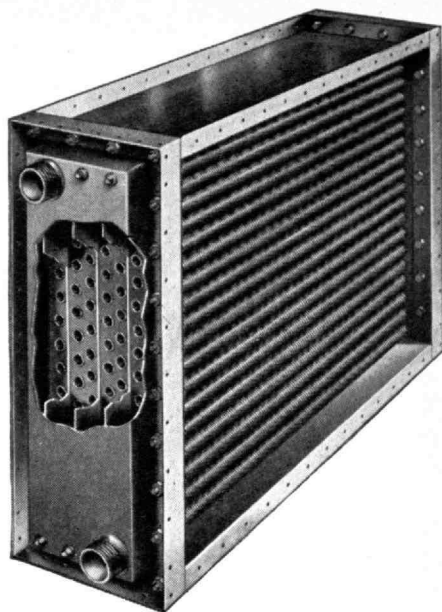
*Galaxies, Nuclei, and Quasars*, by Fred Hoyle (Harper & Row, \$3.95). Cosmic-ray studies by Professor George W. Clark, '52, and William L. Kraushaar are among the many recent developments covered by the noted British astronomical frontiersman.

*INTREX*, a report of a planning conference on information transfer experiments, edited by Professor Carl F. J. Overhage of M.I.T. and R. Joyce Harman, '45 (The M.I.T. Press, \$3.50). Numerous M.I.T. authorities joined others in this discussion of the future of libraries at Woods Hole last summer.

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## National Transportation

*(Concluded from page 15)*

the nation's transportation systems. Initial composition of the Department of Transportation could include:

From the Department of Commerce:

Bureau of Public Roads  
 Maritime Administration  
 St. Lawrence Seaway Development Corporation  
 Great Lakes Pilotage Administration

The Federal Aviation Agency  
 From the Interstate Commerce Commission:

Safety functions  
 Railroad car service functions

From the Civil Aeronautics Board:  
 Subsidy functions

From the Department of Housing and Urban Development:

Mass transit functions

From the Department of the Interior:

Alaska Railroad

A number of other jurisdictions and functions could probably be included at a future date and the enabling legislation should so specify. Typical of these are the safety functions of the Civil Aeronautics Board. A Department of Transportation must have a substantial and important jurisdiction with respect to the public safety for all modes of transportation. Obviously, as in the case of aviation, the safety and accident investigation role (now held by the CAB) should be isolated from the operational role (presently held by the FAA). It probably would be necessary to incorporate in a Department of Transportation responsibility for inland waterway development, separate from the basic defense responsibility of the Corps of Engineers. A Department of Transportation would obviously have responsibility with respect to such sensitive defense and diplomatic problems as are represented by the Panama Canal. Because of their critical importance to transportation, a Department of Transportation might well assume control of the functions of Environmental Science Services Administration (Coast and Geodetic Survey and the Weather Bureau) now housed in the Department of Commerce.

Additionally there are other critical transportation functions and

services of other government agencies which, if a national transportation policy is to be effective, a Department of Transportation must be able to influence, if not to control. Such an agency would be the Coast Guard (Treasury Department), whose basic peacetime mission is essentially transportation-oriented.

Probably the machinery for regulating transportation disputes, now a part of such agencies as the Civil Aeronautics Board, the ICC, and the Maritime Commission, must maintain quasi-judicial independence of direct Executive control if the many excellent competitive features of our transportation industries are to survive. The courts simply do not have



*Wide World Photo*

At London Airport, heavy traffic fills both the air and the automobile lanes.

the experience or specialized staff to arbitrate and resolve transportation disputes effectively. Some thought, however, should be given to the possible need for a central point where such disputes could be reviewed from the over-all standpoint of the national interest and the national transportation policy.

Detailed Congressional implementation of a Presidential proposal for a Department of Transportation would, as in the past, be the focal point for trying "to do for the people what needs to be done, but which they cannot, by individual effort, do at all, or do so well for themselves" (Abraham Lincoln), but Congress will need its greatest resources of wisdom and vision to avoid disruption of a national transportation system that now serves the convenience and necessity of its public better than does that of any other country of the world.

# **F**EEDBACK

## Numbers Game

Sir:

Your article "Pressure of Numbers" in the December issue was biological. The sociological aspect of this pressure is quite as complete. For example:

The name which was given to me by my parents is on my letterhead . . . but . . . I am known to Uncle Sam by my Social Security number which is 142070213.

It has to be on all the checks I receive so that the collector of internal revenue can be sure that I am not trying to skin him . . . If you do not know my address, you can reach me at the zip code which is an innovation of the post office and does not require a street address or even the name of the town or state. For example, you can write to me and I will receive the message with the address,

s.s. 142070213, zip 08010.

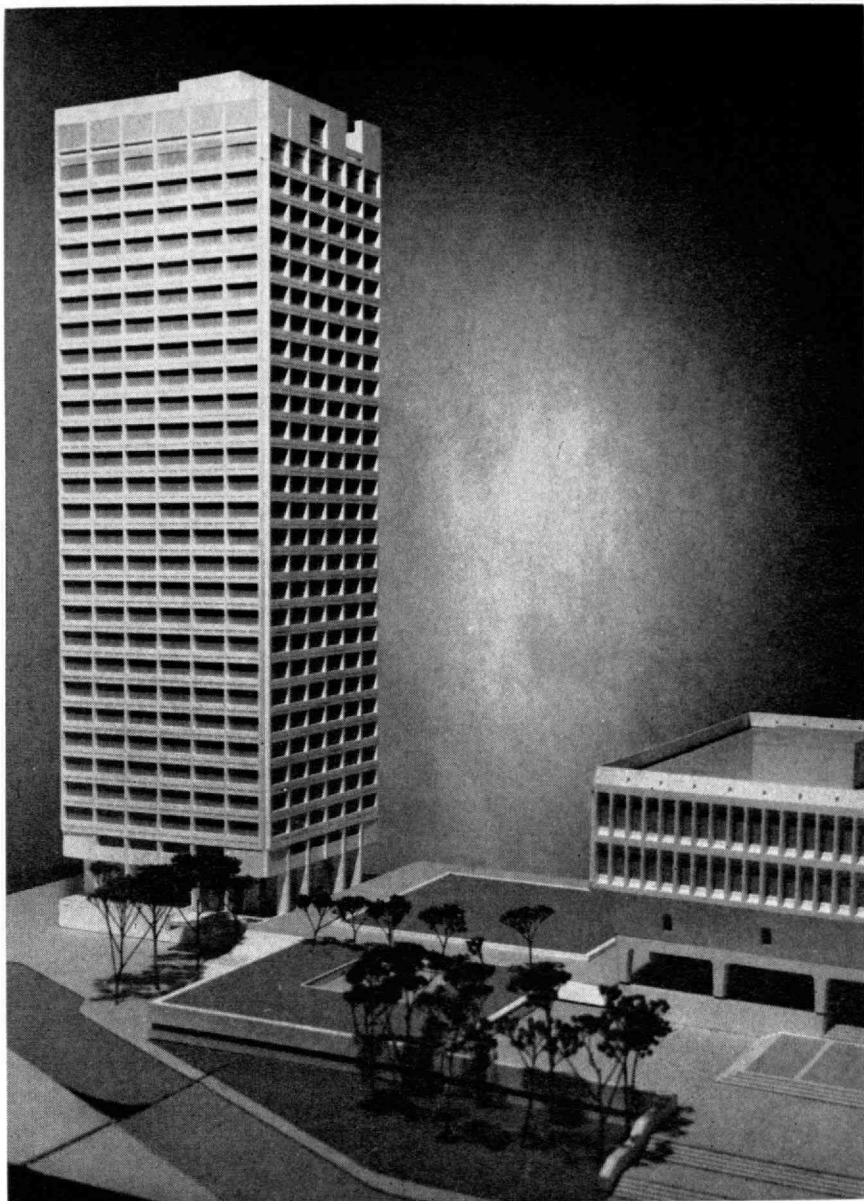
To get my checks into the bank, I have to insert on the deposit slip the number 8313140. Otherwise it will not get credited to my account. Probably the bank will phone me and ask me what the number is. I have it and my Social Security number on the rubber stamp I use to deposit my checks.

If you want to telephone me, you had better know my number. It is 6093870242.

If you do not know it, you can dial 609411 and the information operator will tell you. Whereupon you hang up and then dial the number. If you call from Boston and you want to make it person-to-person, you dial 0609. The operator will ask for the number and you can give the rest of it. I am not sure. Perhaps it is 0609387 that you dial first. She will then ask your number. Your telephone automatically records the toll charge and if you decide to hang the cost on your buddy down the street and give his number, don't do it. . . .

A plague on these numbers. I like my name. The Shaws held travelers for ransom on the Scotch border and one was a pirate in 1812. I like the place I live. And I hate to be classified by a number.

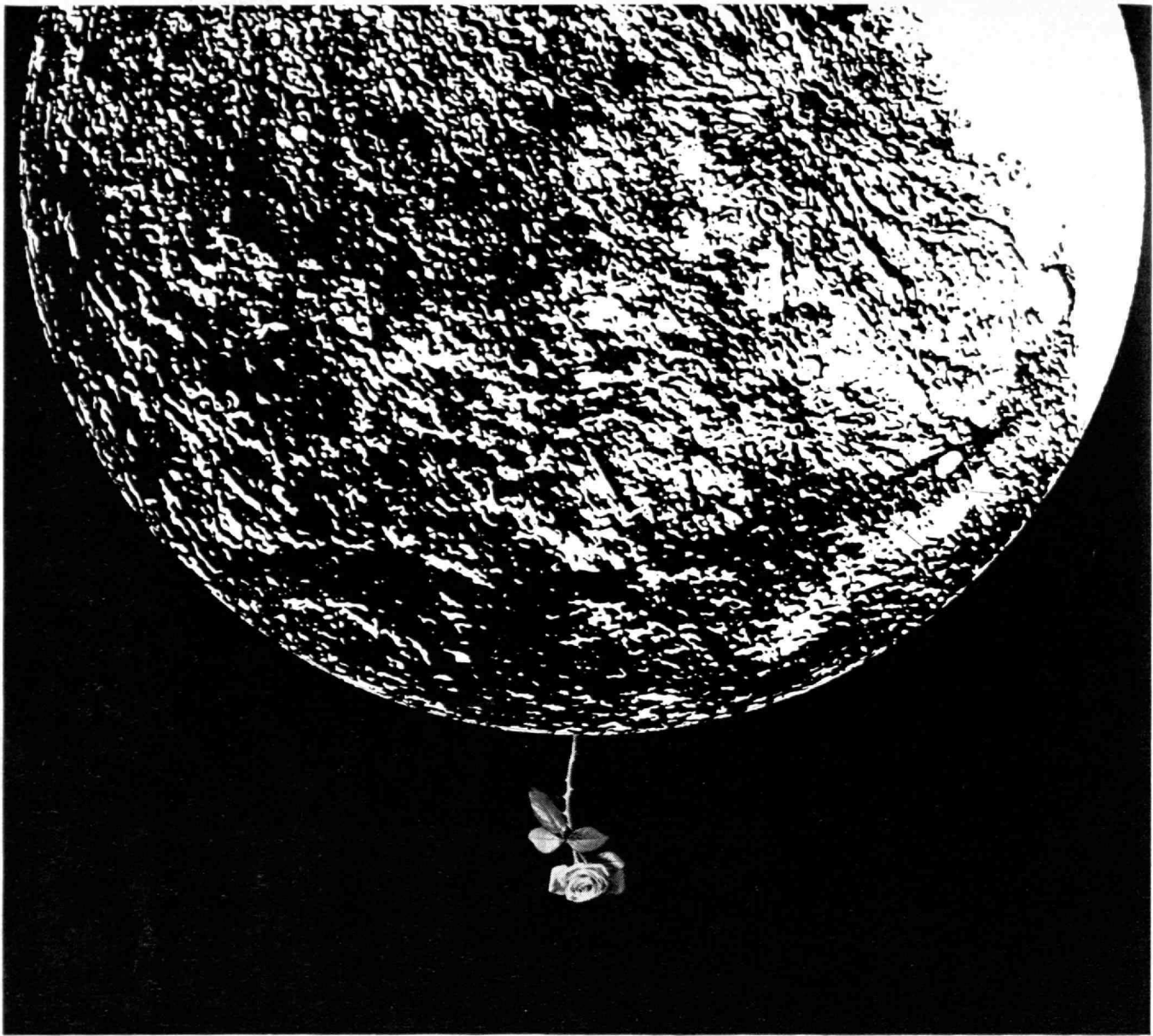
RALPH SHAW, JR., '21  
Beverly, N.J.



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E. Crawley Cooper  
Robert C. Brannen  
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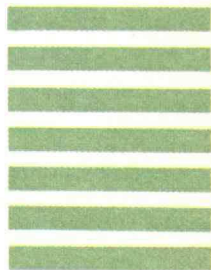
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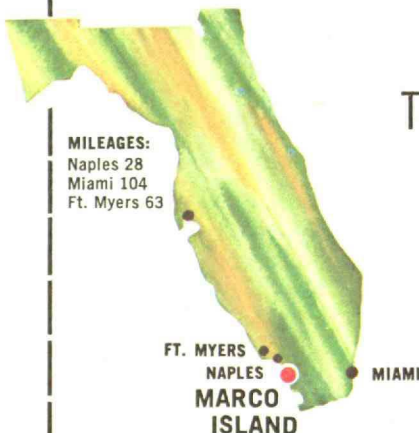
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# **I** NSTITUTE YESTERYEARS

## 25 Years Ago

"The M.I.T. network analyzer, extended 25 per cent in equipment and some 40 per cent in scope," reported *The Review*, "during the past few months has proved better than ever able to assist electrical engineers in settling power-system problems, as well as to give students of power engineering a realistic comprehension of the nature of these problems through actual experience in solving them."

"An entire new fifth section was added to the analyzer last summer, and important changes were made in the proportion of the units added, so that more effective use can be made of the device as a whole. These changes and additions, plus the high-speed, precise centralized metering system developed and installed three years ago, plus an increase in the number of generator units (16 can now be represented) have brought the analyzer up to the highest of present-day standards."

"The Institute's analyzer is the only apparatus of its kind maintained by an organization other than a public utility or electrical manufacturing company. Needs disclosed by problems presented by industrial users of the machine led to the addition of the new unit . . ."

## 50 Years Ago

"Crowning the central portion of the new buildings," wrote the Editor of *The Review*, "is a gigantic dome . . . a piece of architecture that will be recognized as remarkable by anyone who may observe it. . . ."

"Patterned after the famous dome of the Pantheon of ancient Rome, it is molded entirely of concrete of the reinforced, or as it has lately been christened, 'armored concrete' style. It has been designed with two large drums, or perpendicular towers, set one within the other, and over the second has been built the spherical cap of the dome. In the center of this cap is a circular opening, a feature taken directly from the Pantheon but, where that was in the Ro-

man tongue an 'eye' and was open through all the seasons of the year, climatic difference will make it necessary to have the opening covered here with a skylight. . . ."

"This great crown of the Administration Building of the new Technology stands 147 feet above the street level and 65 feet above the parapets. The circular tower of the lower drum is 120 feet in diameter and has a height of 37 feet, the upper drum being 110 feet in diameter and but 18 feet high. The cap, surmounting the whole, is 23.5 feet above the upper drum and has a curved radius of 56.5 feet."

"In comparison with other great domes of the world this new dome at Tech stands well among the first. It is the largest dome in New England and one of the largest concrete domes in the world, the dome of the Pantheon at Rome built on the same principle being but 42 feet wider. It is not quite so large as the domes of the cathedral at Florence, as St. Peter's at Rome or the tomb of Mahmud at Bijapur, neither can it compare with any of the world's great elliptical domes, but it surpasses the dome on St. Sophia at Constantinople by 15 feet, is larger than the dome of St. Paul's at London, and in size the dome of the Capitol at Washington cannot compare with it at all. . . ."

"It would be no exaggeration to state that, were the State Capitol of Massachusetts placed within the Administration Building at Tech and suspended, ceiling to ceiling, its dome would be lost within the great interior of the newer structure. . . ."

## 75 Years Ago

Writing in *The Tech*, the Lounger expressed his fervent wish "to meet the 'Ordinary Man' [of whom the Lounger had heard] the first day he came to Tech."

"This 'Ordinary Man' is a remarkable creature," continued the Lounger. "He is the one being who can do 34 hours' work in 29, and condense four hours' preparation into two. He takes honors, and yet is by no means a mental and physi-

cal wreck. The instructors seem to know him remarkably well. They know all his points by heart, and . . . hold him up as a shining example."

"The chemist is informed that although he is strongly recommended to put in double the time scheduled for laboratory work, yet, of course, should he only put in the required time and accomplish all that could be expected of the 'Ordinary Man,' he will doubtless get his 'P' at the end. In the drawing-room the student, as he wrestles with a 12-hour plate, learns that as it is thought that the 'Ordinary Man' could do it in six, that much time has been allowed. . . ."

■ Other news noted by *The Tech*: "There are just a few men at this institution who think that working 24 hours a day is too much. . . . The Third Year Chemists are now working in the Sanitary Laboratory. They can tell just how much of the acidic element there is in the milk of human kindness. . . . The Electricals are rejoicing at the probable adoption of electric street-cars. They will now have an assured position when they graduate."

## 100 Years Ago

At the 47th Meeting of the "Government," held March 5, 1866, attention again turned to the cost of completing the new Institute Building at 491 Boylston Street, Boston. "In answer to an inquiry as to the amount requisite at this time," James L. Little of the Building Committee stated that "from \$35,000 to \$40,000 at least were wanted at once. . . ."

It was then "Voted, that the Treasurer be authorized, under the direction of the Committee on Finance, to borrow for such time as may be requisite, a sum not exceeding \$50,000 to meet the expenses of the Institute."

"The Treasurer stated that there would be no difficulty in effecting a loan, with a satisfactory endorser."

*As recalled for Review readers by the late H. E. Lobdell, '17.*



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# The Alumni Nominees

**T**heodore A. Mangelsdorf, '26, has been nominated to serve during 1966-1967 as the 73d President of the M.I.T. Alumni Association. His and other nominations were submitted by the National Nominating Committee headed by Hugh S. Ferguson, '23, Chairman.

To be Vice-president for one year, committee members nominated William J. Sherry, '21; and they named Howard L. Richardson, '31, and William S. Edgerly, '49, as Vice-presidents to serve for two years.

Nominees for the Executive Committee were Harold C. Pearson, '23, Member-at-Large to serve for one year; and Robert S. Gillette, '36, Russell L. Haden, Jr., '40, and F. Richard Meyer, '42, Members-at-Large for two-year terms.

*(Concluded on page 54)*

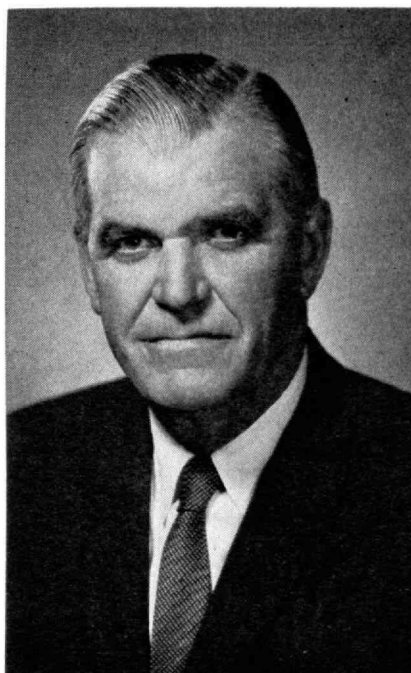


THEODORE A. MANGELSDORF, '26

Fabian Bachrach



Chase Ltd., Photo  
GEORGE R. VILA, '33



Fabian Bachrach  
JOHN K. JAMIESON, '31



JOHN LAWRENCE, '32

## Alumni Nominees continued

Members of the Alumni Association will vote also on nominees for Alumni Term Membership for five years on the M.I.T. Corporation. For this honor the committee named John K. Jamieson, '31, John Lawrence, '32, and George R. Vila, '33.

Nominees for membership on the National Nominating Committee (three-year terms) are included in the report of the January meeting of the Alumni Council on page 55.

Mr. Mangelsdorf, now retired, was formerly executive vice-president of Texaco, Inc. After receiving his M.I.T. degree he taught for seven years at the Institute before joining Texaco in 1933. He was also director and chairman of the board of Texaco Development Corporation, a director of Texaco Trinidad, Inc., and of the Regent Refining Company, Ltd.

Mr. Sherry is president of the Sherry Petroleum Corporation and lives in Tulsa, Okla. He has served M.I.T. as an Alumni Term Member of the Corporation and in many other posts.

Now a consultant to management, Mr. Richardson, of New Britain, Conn., has been a senior executive of several major companies. Mr. Edgerly, of Wayland, Mass., is vice-president and treasurer of the Cabot Corporation and is associated with banking and insurance institutions in Boston.

Among nominees for the Executive Committee, Mr. Pearson is president of Canadian Consociates Ltd., Mr. Gillette is president and director of the Rock of Ages Corporation, Barre, Vt., Mr. Haden is president of Ionics, Inc., of Watertown, Mass., and Mr. Meyer is a consultant and broker in Chicago.

All three nominees for membership on the M.I.T. Corporation are prominent industrial executives. Mr. Jamieson is president of Standard Oil Company (New Jersey) and vice-chairman of its board of directors' executive committee. Mr. Lawrence is chairman and president of Dresser Industries, Inc., Dallas, Texas, and Mr. Vila is chairman, president, and chief executive officer of United States Rubber Company, New York.

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Convenes on SATURDAY, APRIL 2, 1966

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What will be tomorrow's technology, and what will be its impact on our professions, on the education of our children, on our nation's strength and prosperity, indeed on our daily lives?

Six members of the Massachusetts Institute of Technology will speak to these questions at a day-long Conference at McCormick Place, Chicago, under sponsorship of the M.I.T. Club of Chicago. The Conference will consist of morning, luncheon, and afternoon sessions, followed by a reception for the speakers, members of the M.I.T. Club of Chicago, and guests.

### PROGRAM

**A.M.**  
9 to 9:30 Registration, Main Banquet Room, McCormick Place  
9:30 First General Session  
"The Aerospace Age," Dr. Charles S. Draper, '26, Head of the Department of Aeronautics and Astronautics; Director of the Instrumentation Laboratory  
"Meeting World Food Needs," Dr. Nevin S. Scrimshaw, Head of the Department of Nutrition and Food Science  
"Lasers: From Research To Industry," Dr. Charles H. Townes, Provost

**P.M.**  
12:30 Luncheon  
"Education for Tomorrow," Dr. Julius A. Stratton, '23, President  
2:15 Second General Session  
"New Frontiers for Engineering," Dr. Gordon S. Brown, '31, Dean of the School of Engineering  
"Today's Management Is Obsolete," Dr. Warren G. Bennis, Ec '55, Professor of Management  
4 to 5:45 Reception

Registration is open to all alumni, teachers, and other invited guests; the Conference fee, covering luncheon and reception is \$10.75 per person. For reservations and further information, write to:

Mr. E. A. Picardi, '44, Chairman of the Registration Committee, c/o Skidmore, Owings and Merrill, 30 W. Monroe St., Chicago, Illinois 60603

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# Nominations Approved By Council

Candidates for three vacancies on the National Nominating Committee were announced at the 383d meeting of the Alumni Council in January and the Council voted their nominations. They are E. Hibbard Summersgill, '36, and Gilbert P. Tarleton, '25, for District 3; C. William Hargens, '41, Howard P. McJunkin, '43, and Karl E. Katz, '50, for District 6; and Roscoe H. Smith, '23, and Arthur G. Hall, '25, for District 7. (Nominations for officers of the Alumni Association are reported on page 53.)

Speakers at the meeting were Vincent A. Fulmer, '53, Vice-president and Secretary of the Institute, and Milton B. Trageser, '51, Associate Director of the M.I.T. Instrumentation Laboratory.

Although M.I.T. is of medium size among American colleges and universities, its Corporation represents one of the largest educational governing bodies, said Mr. Fulmer. The Corporation provides a separation of administrative functions that is responsible in part for the growth and effectiveness of the Institute, he said.

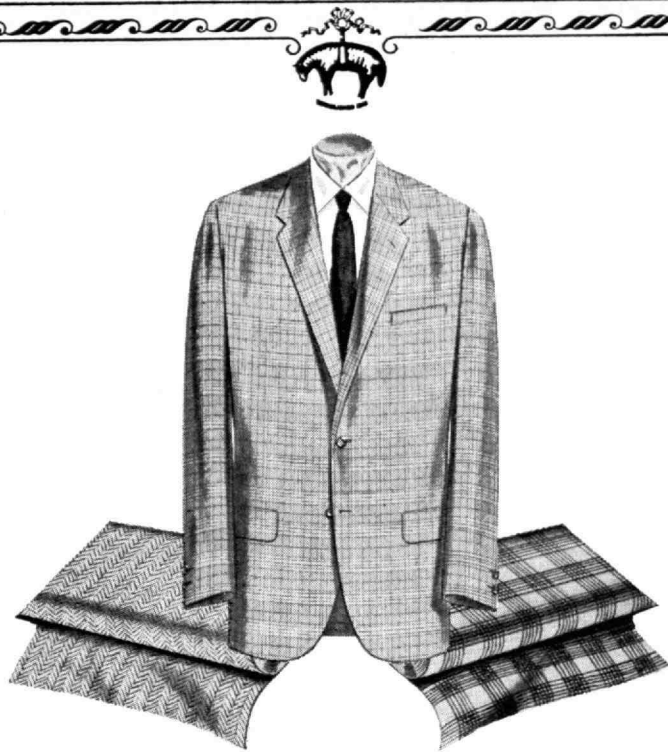
Mr. Trageser described his laboratory's work in designing and constructing the guidance and navigation systems for Project APOLLO.

## Honors to Alumni

Recipients of recent awards and similar distinctions have included:

*Alfred P. Sloan, Jr.*, '95, the 1966 James A. Hamilton-Hospital Administrators' Book Award by the American College of Hospital Administrators . . . *Joseph Kaufman*, '19, the Meritorious Civilian Service Award, by the U.S. Army;

*Frederick A. Brooks*, '20, the Award for Outstanding Achievement in Bioclimatology by the American Meteorological Society . . . *Herman A. Bruson*, '23, an Honor Scroll; *Vladimir Haensel*, '37, and *Robert N. Noyce*, '53, "Modern Pioneers in Creative Industry" awards by the National Association of Manufacturers.



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## Class News



# '93

**Cadwallader L. Washburn**, a Course IV member of the Class of '93, died December 21 in Farmington, Maine. An artist whose etchings and paintings are displayed in major museums throughout the world, deaf mute since the age of three, he was also a war correspondent for the Chicago Daily News during the Russian-Japanese War in 1904 and 1905, and during the Madero revolution in Mexico from 1910 to 1912.

Mr. Washburn received his B.A. at Gallaudet College in Washington, an institution for deaf mutes, before earning his degree in architecture at M.I.T. He then studied art in New York, Madrid, and Paris and exhibited continually in the Paris salons from 1896 to 1904. In 1906 he established his studio on 67th Street in New York. His works are displayed in London, Paris, and Amsterdam as well as institutions in this country including the Philadelphia Museum of Fine Arts, the Library of Congress, the Corcoran Gallery in Washington and the Metropolitan Museum of Art in New York. Of his handicap he said, "Never having known the advantages of speech and hearing, I am equally ignorant of their necessity and am not conscious of any handicap existing. I believe that I am more than compensated for their loss by a greater acuteness of my other senses." Gallaudet College honored Mr. Washburn by naming one of its buildings after him. He is survived by his widow, the former Margaret Cowles.

# '95

Our '95 members are still holding on from Maine to Florida on the East Coast, through the interior, and up the West Coast from California to Washington, making a total of 10 to go out, weather permitting.—**Andrew D. Fuller**, Secretary, 1284 Beacon St., Brookline, Mass. 02146.

# '96

Recently word has been received that **Paul R. Brown** of Dayton, Ohio, died on October 22, 1963. He was with our class in the Freshman year and has not written, according to our records since the note for the forty-five Year Book was printed. Belatedly sympathy of the Class was expressed to his widow, Mary H. Brown in a note thanking her for the letter telling of Paul's death.

**Herbert D. Newell** in reply to a Christmas card sent to all 23 members of the Class writes that he continues to enjoy the new modern apartment attached to his son's house in Fresno. Despite his 94 years, he is in excellent health, no dentures, hearing fair, poor vision yet reads a lot. "When it comes to using a hoe or shovel, I go through the motions, accomplish a little, but not much." As a student he was accustomed to rise early to do his studying; this practice, which I believe he continued, may account in some measure for his present health and happiness. It would interest the class if a few more members would write about their health and interests.—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.; **Myron E. Pierce**, Assistant Secretary, 6 Beacon Street, Boston, Mass.

# '97

For want of any "Class News" I am starting on some records of the Class of '97, which in its time has had a number of outstanding members. At one time we had four members on the M.I.T. Corporation. These members will be named more or less in alphabetical order and according to the writer's knowledge. Additions or corrections by class members will be welcome. It is not confined to graduates.

**Thomas Atwood**, Course I, 6'4" (Little Tommy), was builder of Yale Bowl, one of the first college athletic fields . . . **Charlie Breed**, for a number of years was head of Course I. . . **William Binley**, Course XIII, was for many years superintendent of the Bethlehem ship yard at Hingham. He is one of our few correspondents. . . **Henry Ballou**, Course I, was a nationally known power plant designer of the Providence firm of Jenks and Ballou. I will continue next month.—**George R. Wadleigh**, Acting Secretary, 70 Flower Avenue, Hastings-on-Hudson, N.Y.

# '99

Our oldest classmate Miss **Harriet Faxon** passed peacefully away in New York City, on November 10, 1965, after living 96 years according to her philosophy as she wrote to me several years ago. "I live chiefly between four walls but I am happy in having friends, books, and a sense of humor." Miss Faxon was a native of Massachusetts and was a special student in course IV. She was connected with the Boston Art Museum and with the Metropolitan Museum of Art, New York City, where she was secretary to the

## Happy Birthday

In March five alumni will reach the age of 90; 11 will celebrate their 85th birthday; and 13 will become 80 years old.

March, 1876—**FRED C. PLUMER**, '98, on the 5th; **LYMAN F. HEWINS**, '98, on the 6th; **WALTER S. LELAND**, '96, on the 13th; **PAUL L. PRICE**, '00, on the 14th; and **GEORGE K. NEWBURY**, '98, on the 28th.

March, 1881—**ALEXANDER H. VANKEUREN**, '07, on the 9th; **HARRY S. KENDALL**, '03, on the 16th; **CHARLES F. HUNTER**, '04, and **ROBERT B. SOSMAN**, '04, on the 17th; **WILLIAM O. EDDY**, '03, and **WILLIAM A. YOUNG**, '07, on the 18th; **ELIOT W. NILES**, '04, on the 19th; **JAMES L. TAYLOR, JR.**, '02, on the 27th; **DANIEL A. SMITH**, '03, on the 29th; **ANTHONY B. ARNOLD**, '07, and **LAURENCE U. FULLER**, '05, on the 31st.

March, 1886—**ARCHIE MCEACHERN**, '09, on the 1st; **HUNTLEY CHILD**, '08, and **ALLEN CURTIS**, '10, on the 6th; **JOHN H. TAYLOR**, '07, on the 8th; **GEORGE W. BOWERS**, '09, on the 11th; **LEONARD W. PRITCHETT**, '09, on the 12th; **JAMES M. BARKER**, '07, **REGINALD W. MILLARD**, '09, and **KENNETH C. ROBINSON**, '12, on the 13th; **WALTER R. DRAY**, '10, on the 21st; **THOMAS G. MACHEN**, '09, on the 24th; **LUDWIG ROSENSTEIN**, '10, on the 29th; **GEORGE S. EMERSON**, '10, on the 31st.

chief executive officer of the classical department. Her annual letters exemplified the beautiful handwriting taught educated young ladies of her generation and her pithy comments helped to establish a proper status of women in the art museums of the world. "At the turn of the century women were doing acceptable work at the Boston Museum but only one was at the Metropolitan, admitted in spite of the Director's conviction that women's place was in the home. This was better than the public stand in London a few years earlier when 'no lady should visit a museum without an escort.' (I remember the comments in the Boston Press when a similar stand was proposed in Boston.)" She traced the long story of the gradual approval of the foreign curators as the growth of the collection in New York merited their praise.

Season's greetings were received from **Carroll Brown**, **George Dike**, **Jim Dryer**, **Fred Grover**, **Charles Harwood**, **Gerry Leiper**, **Conrad Loring**, **Alfred Lombard**, **Norman Seavey**, **Hervey Skinner**, **Lawrie Turner**, **Harry White**, **Philip Burgess** who has been to the Pyramids following Seavey, Sherrill and Grover, and Miss **Eugenia Frothingham** enjoying life at 93. All the writers were exemplifiers of how to live a good life in our advancing years and I feel that their good wishes should go to all our class.—**Percy W. Witherell**, Secretary, 1162 West St., Wrentham, Mass. 02093.

# '01

The only class news that I can offer is to report the death of **Charles T. Lincoln, Sr.** on November 26, 1965. He was 86

years old. He died in the Mt. Sinai Hospital. He was formerly of East Hartford and Vernon Gardens and was a substitute teacher in the Hartford area. He was born in Andover, Mass. He lived in the greater Hartford area for 35 years. He graduated from M.I.T. in 1901 and was associated with Connecticut printers for more than 20 years, retiring in 1951. He was a member of the M.I.T. Club of Hartford. He leaves his wife, four sons, 14 grandchildren and six great grandchildren.—**Theodore H. Taft**, Secretary, P.O. Box 124, Jaffrey, N.H. 03452.

## '02

There has been little to report as our class members are for the most part on the inactive list in fact as in theory. **Henry Saylor** has quit Washington and his present address is now 38 Russett Lane, Huntington, N.Y. 11743. No other changes of address have been reported except to add zip numbers. . . . **Joseph W. Ballard, Jr.**, is following in the footsteps of his father, active in Greenfield community affairs. He heads the Industrial Development Commission of the town. . . . Cards were received at Christmas from the Colliers, Moores, Everetts, Arthur Nichols, John Marvin and Dan Patch. All were well except Dan who did not feel quite up to the mark. Marvin promises to do his best to be with us in 1967.—**Burton G. Philbrick**, 18 Ocean Ave., Salem, Mass. 01970.

## '03

We read a recent report by President Mary I. Bunting to members of the new Schlesinger Archives Library, whose interest is the role of American women in particular. This terse statement aroused your Secretary, as his and all other of our M.I.T. Secretaries reports have seemingly ignored (*lése intempérant*) the due acclaim of our devoted alumnae within our classmates. "In sight of technologic ground, her likeness only can be found and that where all good things abound, within Technique." Accordingly I soon contacted our nearest member, Miss Caroline L. Gleason, VII, now quietly enjoying a treasured retirement in Medford, Mass. She was equally surprised at the unusual interest taken at last in their modest behalf. I was further urged to assemble the list of former courageous coeds who shared our daily tense curriculum about the limited domain of Boylston Street, Boston (1900-1903): Miss Annie M. Barber, VII, Sarah Barrett, VIII, Alice Blood, V, May M. Bolster, Katherine Blunt, V, Jessie M. Braley, V, Martha B. Brown, Susan L. Clarke, Laura A. Colbath, VII, XII, Daisy W. Cronkrite, Myra L. Davis, Alice N. Dike, V, VII, Eva L. Feltis, IV, Harriet V. Elliot, Agnes W. Foster, VII, Maude G. Gammon, VII, Mary M. Gaskill, VII, Jessie G. Gibson, IV, Caroline L. Gleason, VII, Mary L. Green, VII, Clara E. Ham, H. Anna Ken-

nedy, VII, Laura M. Lundin, VIII, Iney Merrill, VII, Annie M. Mulcahy, Margaret H. Nichols, Laura S. Plummer, VII, Emerette O. Patch, VII, Mary N. Phillips, VII, Mary R. Pope, V, Julia Pulsifer, V, VII, Amy Putnam, VII, Eleanor Rathbun, VII, Ava M. Stoddard, IX, Edna D. Stoddard, IV, Lucille E. Sargent, VII, Mary Snow, VII, Lucy M. Stevenson, VII, Susan W. Shaw, VII, Sophie Thayer, VII, Margaret Upham, Mary E. Warner, IV, Angelina L. Weeks, VII, Gertrude Weeks, VII, Dora Williams, VII, Elizabeth L. Williams, VIII.

However a consoling note is the recent publication of "Women in the Scientific Profession," celebrated at a tea in the Student Center at M.I.T. Its attending coeds were hostesses and used a silver coffee service which was the Karl Taylor Compton Award won by the Association of Women Students for sponsoring a Symposium on "American Women in Science and Engineering" on which the book is based. The Symposium drew some of the country's foremost authorities on the subject and brought together coeds from 150 colleges and universities. They were urged by the speakers to develop their own views; be self reliant and express their creative talents. Among the speakers was Mrs. Carol Van Aken, a 1965 graduate of M.I.T. and former president of the Association of Women Students.

M.I.T. now has a Navy: in a 50 ft. boat, the R.R. Shrock, that went into service recently as the first Oceanographic vessel of the Institute. The Shrock was built by the U.S. Navy 10 years ago and loaned to M.I.T. Department of Geology and Geophysics. It was outfitted in the boatyard at Chelsea for research, chiefly within the area of Massachusetts Bay. It is named for Dr. Robert R. Shrock, who had been a member of the M.I.T. Faculty since 1937, as head of the Department for 16 years and played a key role in developing oceanographic activity at M.I.T.

Our birthday greetings go to **Fred B. Crosby**, VI, for his 85th January 16 at Muncie, Ind.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 131 State Street, Boston, Mass.

## '04

We are sorry to have to report some very sad news this month. Our Class Secretary, **Carle R. Hayward**, passed away on December 26, 1965, after a long illness. Carle was always a loyal member of our class and was a very efficient secretary and considered the position as one of great honor. He will be mourned by every one of his classmates. We extend our heartfelt sympathies to his wife, Mary, and son Murray. I am sure you will all be interested in a resume of some of his activities since his graduation in 1904. The following is from the Boston Herald.

"Services for Carle R. Hayward, 85, of 1070 Beacon Street, Boston, professor

emeritus of process metallurgy at M.I.T., will be held in the Gordon Chapel of Old South Church, 645 Boylston Street. A resident of Quincy throughout most of his career, Professor Hayward served for 30 years as president of the Quincy YMCA, and for six years as chairman of the organization's state executive committee. As a young man he also served on the Quincy City Council. At M.I.T. Professor Hayward conducted extensive research on the processing of copper, nickel, lead and zinc and assisted in the development of the commercial process for producing oxygen-free copper. He was the author of a number of technical papers and books. The descendant of Mayflower passengers, Professor Hayward was born in Yankton, S.D., and lived in Tennessee, Virginia, and New York before his family moved to Quincy. He graduated from Quincy High School in 1900 and from M.I.T. in 1904. After serving as an instructor in science at Bellows Free Academy, Fairfax, Vt., he returned to M.I.T. in 1906 as an instructor in mining engineering and metallurgy. He was promoted to assistant professor in 1912, associate professor in 1921 and to professor of process metallurgy in 1938. He was a former president of the M.I.T. Faculty and served as president and then secretary of the class of 1904. He was a member of the British Institute of Metals, and a former chairman of the Boston Section of the American Institute of Mining and Metallurgical Engineers. He also was a member of the Quincy Lodge of Masons, the Mayflower Descendants Society and Bethany Congregational Church in Quincy."

Other deaths are **Alfred L. Coupe** of St. Petersburg Beach, Florida on July 11, 1965, and **Frederick L. W. Richardson** of Chestnut Hill, Mass., on June 19, 1965. No details are available.

We have received a note from Paul P. Austin, '16, enclosing a clipping from the San Francisco Chronicle reporting the death of **George E. Atkins** in Berkeley on December 14, 1965. Mr. Austin says he has had contact with him over the years and in the latter part of his life he had a consulting engineering office specializing in heating and ventilating for architects, but had been retired for the past five years.

We certainly would like to hear some cheerful news from our classmates for the next issue of the notes.—**Eugene H. Russell, Jr.**, 82 Stevens Road, Needham, Mass.

## '05

Christmas cards brought Ruth and me a lot of good wishes and hopes for a happy and healthy New Year. Some of them contained no personal news for publication but allow the assumption that they are at least able to hold a pen and sign their names. Thanks to Charlie Mayer, the Myron Helpers, Gil Joslin, the Mildred Tompsons, the Court Babcocks, Edward C. Smith, the Len Cronkhites, the Harry Kendalls, Bert Files,

Harry Charlesworth, Henry Buff, Walter Eichler, the Bill Balls, the Bob Adams, the Warren Wells, George Rhodes and Sam Seaver.

From others I gather bits of news. From **Sid Caine**, "I am still out of a wheel chair." . . . From **Bill and Alice Spalding** a picture of Alice cutting their Golden Wedding Anniversary cake (August 26, 1965) with a statement: "We are all well and merry here, and we hope you are too. We're still boasting about the Golden Wedding,—as per enclosed photo—which indicates we are still able to sit up and eat (to say nothing of the empty wine glasses). In fact, we feel better and younger than at any time in the past five years." . . . From **John Damon**, "I was able to spend the whole year at home with a lively family. This is so much better than any hospital." John is bravely enduring the ill results of his three years in the Korean War.

From **Wallace Taylor**, "I could not get away for the Reunion for I was moving. My home is being torn down for a Super Expressway. I don't like it but have to lump it."

From the **Roy Allens**, "We were sorry to miss our reunion. In the spring we planned to attend, but when the time came the flesh weakened and we stayed home. Maybe we can attend our 65th. No news with us, both well and happy. Have not been out of the state since April, but plan to go to the Coast for over the holidays." . . . From **Fred and Dorothy Poole**: "Congratulations for your good reporting of our 60th reunion in the Tech Review. I wish we could have been there. We seem to be holding our own tolerably well and hope you two are also."

It is the lot of secretaries to receive from classmates (and their wives) letters telling of sadness, principally in regard to sickness in the family. I try to express the sympathy of the class. I learn that **Herman Eisele's** wife has been bedridden continuously for two years, requiring 24 hour nursing service. Herman apparently goes to his office every day, returning at 4 p.m. to take his "shift." Would that someone, who knew him particularly well while at M.I.T. would write him a few words of good fellowship. His address is 2657 Noble Rd., Cleveland Hts., Ohio 44121. . . . **Herb Bailey** sends me again his very interesting family Christmas letter. I quote a section which tells a bit of his personal life during the past year: "During the past year I have been so graciously blessed by Him whose birthday we are celebrating that this letter is more thanksgiving than greeting. Health and happiness have been the lot of all the family except me and I am now almost as good as new after some time in the hospital. The surgeon did an excellent job and seemed quite proud of the seven inch tattoo he left on my abdomen. Nurses were all delightful and the beautiful flowers, cards and visits I received made me appreciate more than ever my host of friends. As no one ran against me last Spring I am still on the County School Board, but resigned from the Civil Service Commission after 20 years in that job. The annual auto driving test, taken just before going to the hospital, almost de-

prived me of the use of a car but I passed by one point. I should worry, there are still four folks here to drive me around. My ceramic shop is rehabilitated so I can make pots again." There follows quite a history of children and grandchildren. It makes me envious, all these grandchildren in college when the best I can do is one grandson, a Sophomore at Rollins College in Florida. However, there are six more coming along and I may have grandchildren in college when some of my classmates have great grandchildren there.

Speaking of a wonderful family, I wish I could write here a family tree of the **Prince Crowells**. Ethel writes, "Prince and I feel we are a little more active than our age would suggest. His love is still his boats and mine my birds and gardening. He won one important three-day regatta and is purring over a handsome trophy. His grandson, Prince Sears Crowell III, beat him by 16 seconds near the end of the 20-mile race. He passed him in the Hole itself—Prince's own special spot for 70 years!"

"I expect my sister, Loren and Persis, Carleton and Olive for Thanksgiving and hope to spend Christmas with Persis and Olive. Then we go to the same apartment in Florida that we have enjoyed for two years. We feel we are among the most fortunate people." Then follows a whole page of the accomplishments and status of children and grandchildren. When I get it worked out (a la the King Family on the T.V.) I'll give you some statistics.

**Errett M. Graham**, I, evidently alluding to my writeup of his island-hopping surveying experience of last summer writes, "Don't know anything about that superman stuff, I still get in an occasional 10 mile canoe ride to the County Seat at Friday Harbor and ride a bicycle to the local Post Office." Now where did I get that Superman idea? . . . I have been reading a very interesting brochure on the 6th Alumni Officers Conference (which I was unable to attend) held on Campus in

September 1965. One thing which interested me particularly, "We are not plagued with dropouts because of low grades—last year the attrition at the end of the first year was less than 5% from all causes." What a change! According to Alumni Association records 600 freshmen entered in September 1901—244 graduated in June 1905, a loss of about 60%. One man still carried on our list told me a few years ago, "I went up Rogers steps, registered, looked over the bunch of papers they gave me, looked at them hard, then went down the winding stairs and out onto Newbury Street. I never went back, yet I'm listed on the Register of Former Students." Another comment. Under the heading Extra-Curricular Activities, "In intercollegiate sports there are 19 squads in both freshmen and varsity. Almost 1000 men were in the program last year and they engaged in 494 contests, etc." This, of course, involves a large financial budget and reminds me of our athletic activities in the old freight shed on Exeter Street. There must have been some kind of a budget for I remember that one night while practising basket ball, Dez Schonthal fell on our only (and patched) ball and busted it badly. Next morning I walked down to the office of Major Briggs, chief of athletic finances, at what is now #10 High Street, and asked for, and got, cash to buy another basket ball. But, "them were the good old days."

I have two more bits of sad news to report. **Edgar Bailey Cooper, II**, died in Grosse Point, Mich., on November 1, 1965. No other data on this. . . . **Robert L. Young, V**, died at the Hale Hospital, Haverhill, Mass., on December 26, 1965. This was not entirely unexpected as Bob's son took him to our 60th Reunion last June. It apparently was a difficult thing for Bob to do as he had been having much difficulty with emphysema for some time. When he bid me goodbye, after the cocktail hour at McCormack

## Deceased

**CADWALLADER L. WASHBURN**, '93, December 21\*  
**MISS HARRIET FAXON**, '99, November 10\*  
**PHILIP S. BAKER**, '01, December 24  
**C. THAYER LINCOLN**, '01, November 26\*  
**WILLIAM V. McMENIMEN**, '03, December 26  
**ERNEST J. CRONENBOLD**, '03, December 2  
**CARLE R. HAYWARD**, '04, December 26\*  
**EDGAR B. COOPER**, '05, November 1\*  
**CLAYTON M. SIMMERS**, '05, December 24  
**ROBERT L. YOUNG**, '05, December 25  
**MISS FRANCES P. WEBSTER**, '06, September 9\*  
**JOHN P. WETHERILL**, '07  
**KENNETH C. BOUSH**, '08, August, 1964  
**FRANK J. ROBINSON**, '08, December 31\*  
**ROBERT M. KEENEY**, '09, November 18\*  
**JOHN AVERY**, '10, October 30\*  
**GORDON G. HOLBROOK**, '10, December 6\*  
**RALPH L. POPE**, '10, January 1  
**CHARLES E. DODGE**, '12, November 1\*  
**EDWIN C. HOLBROOK**, '12, September\*  
**CARL LINDEMANN**, '12, April 19\*  
**FRANK J. JEROME**, '14, November 23\*  
**FRANK S. SOMERBY**, '14, December 13\*

**DAVID M. TERWILLIGER**, '14, December 16\*  
**ANDREW J. STIVERS**, '15, December 3  
**HAROLD F. EASTMAN**, '17, December 12  
**MAURICE N. LANDIS**, '18, December 10  
**RICHARD LEE**, '21, August 29\*  
**WINFIELD S. LIBBY**, '21, December 28  
**JAMES W. MCNAUL**, '21, December 26, 1964\*  
**NORMAN F. PATTON**, '21, December 26\*  
**ERNEST PAULI**, '21, October 26\*  
**IRVING G. SMITH**, '21, October 31  
**ROBERT H. LAWSON**, '24, December 17  
**MALCOLM G. DAVIS**, '25, September 30\*  
**LAWRENCE S. RANDALL**, '26, September 21  
**A. LEWIS MACCLAIN**, '27, August 6\*  
**SAMUEL J. SHURE**, '28, December 23, 1964\*  
**LEWIS FUSSELL, JR.**, '32, October 4\*  
**IVAN S. CLIFF**, '33, November 10  
**CLYDE A. DIVELY**, '33, November 19  
**EDWARD E. FOSTER**, '33, November 27\*  
**VICTOR N. JAFFE**, '33, December 5  
**HERBERT E. KORB**, '33, December 5  
**HENRY W. HOPE**, '35, June 28, 1964  
**JOHN F. MATTHEWS**, '48, November 23  
**FRANK H. BOLTON**, '51, October 31  
 \*Further information in Class News.

# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

1/31/65

1/31/66

Class	No. Active	No. Contribs	%	No. Contribs	%
'99	29	11	38	10	34
'00	26	8	31	8	31
'01	47	11	23	15	32
'02	54	18	33	16	30
'03	57	20	35	16	28
'04	70	26	37	25	36
'05	86	40	47	36	42
'06	109	37	34	39	36
'07	92	28	30	29	32
'08	111	45	41	42	38

Hall, he knew this was his last reunion.—**Fred W. Goldthwait**, Secretary, Box 32, Center Sandwich, N.H.; **Gilbert S. Tower**, Assistant Secretary, 35 North Main St., Cohasset, Mass.

## '06

Like the notes from other class secretaries, mine for this month will be mostly excerpts from the numerous and very helpful messages and letters with and on our Christmas cards, for all of which many, many thanks from Marion and Ned. Incidentally, some of them carried the zip number as well as the address, and one letter demonstrated the help that zip numbers can give the P.O. in getting mail to the addressee. A card from the West Coast addressed to us had the street and number all right but then only our zip number—02181—no Wellesley Hills or Mass. It came through to us in seven days or less, only two days more than normal and that in mid-December! Hurrah for the P.O. Dept. and zip numbers. Be sure to have yours on your address stickers and/or included in the return address on your envelope.

**Art Sherman** from his retirement home in the Westchester in Washington, D.C., sent me a three-page report in longhand, commenting "I didn't graduate with a Phi Beta in handwriting"—but I could read every word without difficulty. He had tried, with little success he says, to attend our five-year get-togethers. His wife Beatrice died in '56 after a long illness and in '59 he married Mrs. Lillian Williams, who died in '61. Then Art had a severe illness himself. "I'll do my best to show up next June. No promises, however." Art's first job after graduating was with the Board of Water Supply of New York City as assistant engineer in White Plains. He had seen in the '05 notes in the Review something about the activities of Bert Olmsted. It seems he was one of a group of boys who came together in White Plains and "somehow hit it off pretty well in the local social activities, including girls." I'll let Art go on from there, to quote: "There were as I now recall, six of us—Bert M.I.T. '05; **Howard Barnes** and me '06; Ned Sprague and Frank Jones, Harvard '04 (I think) and Harry Goodwin, Columbia '06. I wrote to

Bert, now of Gilmanton, N.H., and then checked on the others, finding to my astonishment, that they are still around. Presently they are, quite logically, pretty well scattered. Frank is in White Plains; Ned in Westwood, Mass.; Howard in Plymouth (in the house where he was born); Harry in Largo, Fla.; and I'm still here in D.C. It was a great pleasure to reestablish contact and hear about the past." Thanks Art, and why don't we all start a similar roundup?

**Dwight McCain** who recently sold his 300 acre Hill Crest Orchards near Frederick, Md., had a severe heart attack last July then spent seven weeks in the hospital and as late as Christmas was restricted mostly to lying around the house and to taking short walks on good days to the kennels. Dwight had raised beagles or some breed of hunting dog, and said he had a couple in the house and they were a lot of company. In 1915 Dwight married Alice White Dean and they celebrated their 50th wedding anniversary on December 19th—so belated congratulations to the McCains. It always stirs old memories to hear from the '06 widows—Agnes Coes; Vera Philbrick; Nellie Cady; Sadie Sherman and Frances Fuller, who wrote, "At long last I have sorted Floid's pictures and enclose the slides of the '56 class dinner and reunion. He did movies of the '51 reunion but must have turned them over to Jim Kidder because they were not among the ones I have. I hope that . . . 1906 will have a fine reunion next June." In a note of thanks to Frances I said it was thoughtful of her to send me the slides and that we will all enjoy them in June. Also that we hoped she could be with us then.

Betty and Stew Coey are now official residents of Vermont and have their car and drivers licenses there. Stew says he also has his life-time fishing license. . . . Florence and Allyn Taylor are planning on returning next June for reunion and "hope to see all our old classmates then." . . . Same goes for Mary and **Harry Fletcher**. . . . **Jim Wick** wanted to be sure the card from him and Clare arrived on time. It came from Youngstown in 24 hours—airmail special delivery. Jim was pleased that Howard W. Johnson had been picked for the next M.I.T. president—glad they didn't go outside. . . . **George Guernsey** has joined our Travellers Club. He shook the dust of Wellesley off his feet a year or more ago when he moved to

be with daughter Mary in Wilmington, Del. But he spent the winter months in Orlando and tells me he—to quote—had a fine time visiting Helen and family in Burton, Wash., also Betty and family in San Jose, Calif., three weeks each. . . . Then **Roy Allen** '05 in Phoenix and took trips to Roosevelt and Hoover Dams. "Mary and I flew over to London for five days sightseeing. Saw the usual, plus trip on the Thames to Windsor Castle. Then we joined Carl in Madrid. Saw bull fight and took seven-day tour to South Spain. Saw many beautiful Cathedrals, Mosques, etc., dating back to early centuries. Saw Gibraltar and coast of Africa. Then I got a bug and we had to give up balance of trip to southern Europe. After spending a month in three hospitals am improving rapidly and expect to take up normal activities soon."

As many of you know, **Guy Ruggles** is another Traveller but he didn't get far from home this past year, to quote: "I spent the summer in Phoenix. In July my doctor told me to 'slow down' or 'up'—whichever way you want to look at it. I had it coming to me. Since then the Doc has said nothing more and I know I have improved. Just finished my winter vacation—five days in Tucson with a few in Mexico. I will spend the winter in Phoenix. Already have a number of dates for the holidays." . . . Margaret and **Jack Norton** don't go very far afield these days either. He says, "We live a quiet life in this town of retired people. I had a siege in the hospital last spring along with a couple of surgical operations and am still recovering only slowly. North Carolina mountains were more beautiful than ever this autumn—reminded me of New England. We travel very little these days and I don't see much chance of getting to our 60th reunion. I don't believe I could take it." . . . Bertha and **Sherm Chase** are both improving slowly, still have some "creaks" left but feel very fortunate to be getting around on their own steam. . . . Andrea and **Bill Abbott** are "at home" in Wilton, N.H., and at West Falmouth on the Cape. They ask, "Don't pass us by if you hit the ski slopes, or the beaches." . . . **Henry Mears** allowed he hasn't done much moving around the past year but added, "I am always looking for a good traveling companion. I don't want to take root. Maybe Henry and George Guernsey might team up for a summer—or winter—in Alaska." . . . **Andy Kerr** wrote that he will be 88 in September but he plans to come up from Barnstable for our June reunion and also to attend a meeting of the Mass. Fruit Growers Association, on which he served as a director for 10 years. He thinks Emily Wick should be made an honorary member of '06. . . . **Howard Barnes** said he'd been told that next June is our 60th but he fears that his two canes would not provide adequate or safe-support in that event. . . . In the Boston Herald of December 20 **Bob Rose's** wife Anne had a "letter to the Editor" saying, "Tell Dahl we would buy the Herald for his cartoons if all the other pages were blank." I wouldn't go that far but we do enjoy his daily cartoon too, for they are timely, well done, and usually hilariously funny. I've

clipped them for years and have hundreds.

On January 9 **Jim Kidder's** sister Mary telephoned to let us know that Jim had been taken by ambulance to the Fairlawn Nursing Home in Lexington and had seemed to accept the change without question or fuss. Mary will continue to stay at 7 Brook St. with the housekeeper they have had for some years. . . . **Frank Benham** enclosed a note replying to my inquiry, "Yes, I saw Jim shortly before I came south. I found him very poorly. A strong heart keeps him alive the Doc says." Frank planned to find Geo. Guernsey in Orlando where he said he goes for car service.

Of the many '06 cards we sent, only three came back—"moved and left no address"—for two of them, and "deceased" for the other, which went to Beacon St. in Brookline. By a phone call to the Brookline Town Clerk's office I obtained the date. **Miss Frances Phillips Webster**, V-VII, died September 9, 1965, probably at the Vuley Nursing Home where she had lived for several years. She was 85. Miss Webster came to us only freshman year, with an A.B., but what college we don't know. The file card contains only addresses, Beacon St. Have you returned the reunion questionnaire to **Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills, Mass. 02181.

## '07

**Jim Barker**, I, was in London in December and noticed an item about **C. D. Howe** in the London Times which he thoughtfully cut out and mailed to me. I quote from the article which was headed, "Canadian Air Force Farewell to North Star Planes: The North Star has had both a military and civilian role as an air transport since 1947. In a sense, the aircraft was the 'child' of the late **C. D. Howe**, one of Canada's great wartime Cabinet Ministers, who said that it was the one aircraft that was most likely to succeed in Commercial Aviation in this country during the Post War years. The 26 North Stars, purchased between 1947 and 1950, have been to practically every corner of the earth—a familiar visitor to the North Pole, the Middle East, and to Europe—indeed, to every theater where Canadian troops have served. It has been a dependable work horse for the R.C.A.F. and has not had one fatal accident." Jim writes, "This is my fifth trip to Scotland in 1965. I am a member of a group of Britishers who enjoy grouse and pheasant hunting in the Highlands, which accounts for all my traveling."

Your Secretary had an invitation from Tom West, '22, to a dinner at the Worcester Club on December 15. The occasion was to initiate the newly formed Worcester Area Special Gifts Committee for the M.I.T. Alumni Fund. I have served on this Fund Committee for several years and found the assignments most interesting.

To most of us the letter from **Jim Killian, Jr.**, telling of the election of Dean

**Howard W. Johnson** as the 12th President of the Institute to succeed President Stratton came as quite a surprise. No doubt there will be a special Convocation to honor his induction into office, and I hope many of our '07 members may attend. It will be a gala occasion. . . . Neither your Secretary nor the Alumni Register has been able to obtain any information about **John P. Wetherill** who has been carried on our '07 roll as a "non active" member. The Register has sent me a notice stating that they "assume he is deceased."

The Office of Public Relations, M.I.T., released the following on December 28, 1965: "A gift of \$2,000,000 by **Frank S. MacGregor** of the Class of 1907 toward the cost of an undergraduate men's dormitory at the Massachusetts Institute of Technology was announced today by Dr. James R. Killian, Jr., Chairman of the Corporation. Mr. MacGregor has consented to the naming of the dormitory in his honor at M.I.T.'s request. The grant will enable M.I.T. to make definite plans for the construction of the new dormitory, to cost more than \$4,000,000 and to house 300 students, facing Memorial Drive on the West Campus.

"Several new dormitories will be designed so that they can be operated on the housemaster-tutor system, which we have found most beneficial in fostering student-faculty relationships since its introduction at M.I.T. seven years ago. The dormitories, first for men to be constructed at M.I.T. in about 20 years, will be located west of Burton House and Baker House, the two largest dormitories for men now at M.I.T. In one direction they will face the Charles River and in the other, Briggs Field, used for baseball, soccer, lacrosse, rugby and other sports. They will also be near the new Student Center, Kresge Auditorium and a new boathouse being constructed by M.I.T. According to present plans they will consist of low-lying structures, each with a tower and an inner court."

I have had some members of '07 write to me that M.I.T. never did anything for them, which is the reason they never contribute to the Alumni Fund or to the Class "Kitty." Evidently **Frank MacGregor** got a great deal out of his M.I.T. training and, in grateful appreciation, is making it possible for future generations to have excellent housing conditions while studying at the best technical school in the world.—**Philip B. Walker**, Secretary and Treasurer, 18 Summit St., Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland St., Newtonville, Mass.

## '08

**Harold Osborne** and his wife were in Tokyo last October. He attended meetings of the International Electrotechnical Commission of which he is a past president and an Honorary Member of its Council, the governing body. While in Tokyo he was invited to a luncheon by Japanese friends and then presented with

a diploma announcing that he had been elected an Honorary Member of the Institute of Electrical Communication Engineers of Japan. There are only three other foreigners who have received this honor. In November at the annual dinner of the Montclair Chamber of Commerce he was presented with their Community Service Award in recognition of his various activities for the community over a long period of years.

We are sorry to report the deaths of **Walter G. Pfell** of Passaic, N.J. in August, 1963, **Albert L. Messer** of Wakefield, Mass., in December, 1964, **Kenneth C. Boush** of Newport News, Va., in August 1962, **Frank J. Robinson** of Boston, Mass., in December 1965. Paul Norton tells me that Frank had been ill for several months following a shock. **George S. Coleman** of Manchester, N. H., died in December 1965. George was civil engineer for the Boston Public Works Department for many years.—**H. L. Carter**, 14 Roslyn Rd., Waban 68, Mass.; **Joseph W. Wattles**, Treasurer, 26 Bullard Rd., Weston 93, Mass.

## '09

In earlier notes we have already reported that **John Davis**, our Class Treasurer, was a member of the Cambridge Water Board. In the seven years he has been a member of the Water Board he has held the office of clerk and during the past three years he has been its president. In the December 16 issue of the Cambridge Chronicle there appeared a two-column article with a headline "Water Board Head Stars in a New Role" together with John's picture. It begins: "John F. Davis, president of the Cambridge water board, was revealed in a new role at the annual water board dinner for the city government at the Hotel Continental, Monday night. A graduate of Rindge and M.I.T., he was already known as an authority on paper mill operation and as an artist (he paints in the traditional and NOT the modern style). The new role in which he appeared Monday night was that of historian. A new booklet, 'The Life Story of Cambridge Water,' written by Mr. Davis, was distributed to those attending the dinner. Mr. Davis said the man who thrust him—willy nilly—into the historian's chair was another Rindge graduate (a former Rindge teacher, too), City Manager **John J. Curry**." The 15-page booklet entitled "The Life Story of Cambridge Water" begins by stating that pure water was never a problem to the earliest settlers of Cambridge, for there were plentiful springs, streams, and ponds available. The development of the Cambridge water system from these early beginnings is traced to the present comprehensive system whose scope may be inferred from the following: "When you turn on a faucet in your home to get a drink of water, this water may have originated in several places: Hobbs Reservoir, Stony Brook, Quabbin or nearer home from rainfall at Payson Park or Fresh Pond. Wherever it originated, it is

one of the world's purest and most potable drinks." Thanks to John's leadership there has been no water shortage in Cambridge during the recent prolonged drought.

In the February notes we told of the death of Dr. Thomas G. Chapman, Dean Emeritus of the Arizona University School of Mines. In addition to his wife and son he is survived by a brother Duncan and a sister Miss Dora, who live in Lincoln, Mass. Duncan has written to the Secretary as follows: "I would like to get a copy of Technology Review for February. I am familiar with the highlights of Thomas' career, if I can be of any assistance to you. I, like my brother, was out of touch with M.I.T. I know he was in touch with Professor Locke until his death. I also used to see Professor Locke often and I know he was informed of my brother's work." A copy of the February Review has been sent. Most of us remember Professor Locke of the Department of Mining Engineering, a former President of the Alumni Association.

We were most sorry to receive a notice from the Alumni Office of the death of Robert (Bob) M. Keeney, III, at the age of 78. Bob prepared for the Institute at the Hartford, Conn., High School. While a student at M.I.T. he was very active in Class and Institute affairs, being a member of the Mining Engineering Society, the Round Table, associate editor of Technique, a member of the class relay team in both his freshman and sophomore years, captain of the sophomore team, and assistant manager of the varsity track team. He has had a distinguished career as is indicated in the following tribute by our Class President, Maurice R. Scharff, who knew Bob quite intimately. "Every member of the Class will be saddened, as I was, by the news that our classmate, Robert M. Keeney, died at his home in Farmington, Conn., on November 18, 1965. All of us will remember Bob's personal charm as a friend and associate during our undergraduate days. But only a few of us kept close enough contact with him, after his graduation at the Colorado School of Mines in 1910, to know of his brilliant professional careers, first as metallurgical engineer, consulting metallurgist for the U. S. Bureau of Mines and many large corporations and Director of Metallurgical Research for the Colorado School of Mines; and later, as industrial manager and rate engineer of the Connecticut Light and Power Company, from which he retired in 1952. Bob is survived by his widow, Mrs. Catharine Cranmer Keeney, a brother, a sister, and his son, Dr. Barnaby C. Keeney, President of Brown University, to all of whom all of the members of the Class will wish to express their sincere sympathy." We have written to Mrs. Keeney expressing the sympathy of the Class as well as our own.

In 1951 we reported the death of Harold I. Eaton who, as will be recalled, was fullback on our Class team in both our freshman and sophomore years, and was captain of the freshman team. He was a prominent civil engineer in the Atlantic City region and built several large bridges and buildings there. His widow, Frances,

retained interest in the Class and made a substantial contribution to the Class Fund in memory of her husband. We have just received a notice from her son, Harold I. Eaton, Jr., telling of her death suddenly on September 29, 1964. Your Secretary and Muriel were well acquainted with her and had visited at her home in Margate, N.J. We have written to her son expressing the sympathy of the Class and our own.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge, Mass.; **George E. Wallis**, Assistant Secretary, Wenham, Mass.

## '10

**John Avery** of Andover, Mass., died October 30, 1965. He was born in Newton. He had been a resident of Andover for 42 years. He was a graduate of M.I.T. class of 1910. Before his retirement, he was an estimator for the L. C. Cyr Construction Company. He attended South Congregational Church, Andover. He leaves a son, John Avery, Jr., town engineer of Andover and three grandchildren, David, Paul and Ann Avery, all of Andover. . . . **Ralph L. Pope** of Brookline, Mass., passed away on January 1, 1966.

**Gordon G. Holbrook**, Maplewood, N.J., died on December 6, 1965. From 1910 to 1912 he was an Instructor at M.I.T. on yacht design. From 1912 to 1921 he was with the Bath Iron Works, Bath, Maine, and the Fore River Shipbuilding Company, Quincy, Mass. From 1921 to 1946 he was with the Federal Shipbuilding and Dry Dock Company, Kearny, N.Y., where he held a variety of supervisory positions until he became works manager for several years. From 1946 to 1959 he was an Adjunct Professor in fields of labor relations and management practices at Newark College of Engineering. His survivors include his wife Marjorie E., a daughter Elizabeth H. Gabriel, of Radnor, Pa., a son Gordon E., of Indianapolis, Ind., and seven grandchildren.

**Walter T. Spalding** of Hawaii writes as follows: "My wife and I returned from our strenuous mainland travels on the same day as your very welcome letter arrived, with the excellent reunion picture by Russ Hastings. We thank you for it and for the identity chart too. We think your memory is excellent, and so was Jack Babcock's report. We enjoyed every minute of the two-day reunion and are very grateful to all of you who made all the preparations for it. Altogether it was a happy and inspiring time, despite the overtones of sadness due to good friends among those missing. That has to be a part of life so each of us must make good use of the days which remain. We stayed in Boston, at the fine new Sheraton Boston, for two weeks while Romalda taught her method of teaching beginning reading, spelling and writing to a class of teachers, and then flew to Toronto for a similar class there. We took a fortnight then at a lake resort up North with our grandson from Cleveland, and then visited

there before a conference in New York. We had classes of teachers in Peterborough, N.H., where we enjoyed some time with Mrs. Dudley Clapp and the Carl Sittingsers. Then came another two week class in White Plains, N.Y., short family visits in Bryn Mawr and again in Cleveland and a class of 200 teachers at Superior, Wis. In fact, the second of two similar classes are still in progress at local schools, and we are toying with the idea of going to the big island for a real vacation at Kilauea Military Camp. If it were not for the telephone our home would make a perfect vacation and rest."

**Carl H. Lovejoy** of Boynton Beach, Fla., writes "My belated thanks to you for the 1910 class picture of the 1965 reunion. Sorry I could not be there. My wife was in the hospital at that time. Is O.K. now. I did enjoy being with you in 1964. Will make every effort to be there in 1970—God Willing."

**Achilles Hadji-Savva**, of Athens, Greece, writes, "I was so glad to have your news by your letter of September 15th. I enjoyed very much Mr. Babcock's report on our 55th Class Reunion, also the class photograph with the identification chart. I am sorry I have no valuable information to give you for the Review Class Notes but I seize the opportunity to wish you, with my wife, a Merry Christmas and a very happy New Year." . . . On April 1, 1965, **Cecil King Blanchard** was a recipient of the New Jersey Health Officers Association Frank J. Osborne Memorial Award for Meritorious Achievement in Public Health at Princeton, N.J. He is a graduate of Amherst College, Class of 1908. He took postgraduate work in the field of public health at M.I.T. and immediately thereafter became health officer (or "Agent of the Board of Health," as they termed it then) of Wellesley, Mass., a post he held for three years. In 1912 he came to the New Jersey State Department of Health. He worked in the Department for 35 years, retiring in 1947. He held, successively, the following posts: Assistant Chemist, Assistant Bacteriologist, Assistant Epidemiologist, Supervisor of District Health Offices and Sanitation, Editor, Public Health News, Teacher of Public Health Administration at Rutgers Summer School and Special Winter Courses.

**Hiram Beebe** writes: "Thank you very much for the picture of the 55th Reunion and let's hope most of those in the picture will make the 60th. Mrs. Beebe and I might take the long mileage from Hollywood, although did not Spaulding come from Hawaii? Mrs. Beebe and I have given up our task of seven years seeing that plenty of lilies were decorating Hollywood Bowl for the Easter Sunrise Service but have taken on some other jobs such as you will notice from my letterhead—interfraternity Alumni Association of Southern California which theoretically covers over 25,000 college graduates. The first part of August our daughter from Sioux City with her five children spent a week at Green Lake, Wisconsin, the national assembly grounds of the American Baptists. Our son, now plant superintendent for the R. S. Bacon Veneer Company sent his daughter and drove up

for two weekends from Chicago. To a small extent I felt at home in the Conferences as the Mathematical Society had a three weeks session—college and other teachers of mathematics—and I thought of M.I.T. and Temperature Entropy Berry, our patient professor in 1909.”—**Herbert S. Cleverdon**, Secretary, 120 Tremont St., Boston, Mass.

## '11

Part of a letter from **L. G. Fitzherbert** about his trip to Europe last summer follows: “We left for Europe from Montreal on August 8 for Glasgow; and after traveling around Scotland and northern England, we went across to Rotterdam and sailed on a five-day trip up the Rhine to Basel; then in the Swiss mountains over Lake Geneva for a week of beautiful scenery and delicious food. We went over to Barcelona Spain and flew to Majorca where we spent the rest of our time in relaxation under fair skies and summer temperatures and then arrived home to snow. However, although it's great to be away, it's grand to be home.” . . . A letter that came in December from **David P. Allen**, saying that he was back from the hospital, contained the following: “The last two strokes have pretty much finished the job of paralyzing my right side that my stroke after the 50th reunion started. It is not particularly discomfiting, but just an additional nuisance.” He said that otherwise he and his wife were in normal good health, and he asked me to say hello to any classmates I see, particularly **Gordon Wilkes**. . . . Shortly after Christmas **O. W. Stewart** got home from the hospital after two serious operations. He is now steadily improving and is looking forward to the best health he has had in a long time.

If you haven't sent in the reservation card for the 55 year reunion that **Morris Omansky** sent you in January, now is the time to do it. **Morris** is working on the program, details of which will be sent to you later. . . . Not enough classmates have written to **Obie** to make these notes as lengthy as I would like.—**Oberlin S. Clark**, 50 Leonard Rd., North Weymouth, Mass. 02191

## '12

**Charles E. Dodge** passed away suddenly on November 1. **Jim Cook** and I had a very pleasant visit with him last October at his furniture plant in Manchester, Mass., at which time he seemed in the best of health. . . . A letter from Mrs. **Edwin C. Holbrook** tells of **Eddie's** death in September at Miami Beach, Fla., after an extended illness. . . . A note from **Carl Lindemann, Jr.** tells of his father's death last April. **Carl** retired in 1944 as President of **Carl Lindemann Company** of Jersey City, manufacturers of venetian blinds and window shades. He served in the Navy during World War I and was

a member of the Board of Education at Hackensack, N.J. where he made his home. He is survived by his wife **Dorothy** and six grandchildren.

A good letter from **John C. Freeman**, 316 33rd Street, West Palm Beach, Fla., tells of his being at the Institute for Alumni Day last June, but he was unable to attend the luncheon due to the 55° temperature under the tents. A few days later he was visiting in Lynn and was bitten by a dog while walking on a public street. This was serious enough to require hospital treatment and delayed their returning south for about two weeks. He extends an invitation for any classmate in Florida to look him up. . . . **E. T. Marceau** sends a clipping from the St. Petersburg Times regarding his son-in-law **William Mulvihill** who is the author of *Sands Kalahari*. The book has been very successful and is now being made into a movie with **Liz Taylor** and **Richard Burton** in the lead. The **Mulvihills** make their home in Glen Cove, Long Island but spend their winters in Florida near the **Marceaus**.—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 9, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 36, Texas.

## '14

The Boston Herald of December 14, 1965, records the following: “**Frank Somerby** of N.H. taught in N.Y. 36 years. Exeter, N.H.—**Frank S. Somerby**, 72, of Hampton, for 36 years a member of the Buckley School, a private boys' school in New York City, died Monday in Exeter Hospital. Born in Newburyport, Mass., he was graduated from Massachusetts Institute of Technology in 1914 and earned his M.A. degree at Columbia University. He was a former president of the Schoolmasters' Association of Independent School Teachers of New York, former chairman of the Secondary Education Board's committee on elementary schools of New York, and for 22 years a member of the educational records bureau test selection committee of New York. He was a member of the Riverside Church of New York, a member of the board of managers of the New York City Bible Society and a member of the Allied Arts Council of Sarasota, Fla. He leaves his wife, (**Viola Brown**), two daughters, Mrs. **Virginia Wagner**, Old Greenwich, Conn., and Mrs. **Leanne Castle**, Albuquerque, N.M., a brother, **Walter**, of Washington, D.C., a half-brother, **Herbert Moody**, and a sister, Mrs. **Ellen Goodwin**, both of Lynn, Mass. Funeral services will be Thursday at 11 a.m. at the Congregational Church, Exeter.” **Frank** and **Viola** moved to New Hampshire only recently. They attended our 50th Reunion. We shall miss him and extend the sympathy of the class to the family.

We have also received notice of the death of **Frank J. Jerome**, Course I, on November 23, 1965, at his home, 2733 N.E. 17th St., Ft. Lauderdale, Fla. He spent practically his professional life with the New York Central Railroad,

with residences in Chicago, Detroit and New York over the extended period. He was executive vice-president of the railroad when he moved to Florida about ten years ago. He married **Grace Trader** and our records indicate that there were three children, two girls and a boy.

We also have a report of the death on December 16, 1965, of **David M. Terwilliger**, Course VI. He spent only his sophomore and junior years with our class and he was an assistant in Course VI for a short time. Our records give no information on his professional or personal life. Perhaps some of you Course VI Fourteeners who knew **David** can fill us in.

As you read this early in March and if you live in the North you are considering, no doubt, whether winter has left and whether you have seen the last snow storm. It may comfort you to know that our class president, **Ray**, and his wife are enjoying an extended Mediterranean cruise. Why didn't we all think of that. Perhaps some of you did.—**Herman A. Affel**, Secretary, Rome, Maine. Mail: RFD 2, Oakland, Maine; **Ray P. Dinsmore**, President, 9 Overwood Road, Akron 13, Ohio; **Charles H. Chatfield**, Assistant Secretary and Alumni Fund Class Agent, 177 Steele Road, West Hartford, Conn.

## '15

Our Class sends to Mr. **Howard W. Johnson** our sincere and friendly wishes for success and happiness as our new President. Next month's column will give you the play-by-play on our annual New York City dinner at the Chemists' Club there, now being set up by **Bur** and **Larry**. The 60 Christmas cards we received from Classmates and their families from all over our Country warmed our hearts with a fine old friendly feeling. **Phil Alger's** annual poem describes his travels, family, summer, civic activities and **Rensselaer** demands—a really busy man. . . . **Herb Anderson**, “I am grateful that my broken leg with such a complete break of all three major bones above the ankle occurred the week after Reunion instead of a week before. I am glad to see from our Class notes that so many Classmates thanked you and the workers for a job well done. Instead of Florida this winter, we are leaving in March to visit friends in Italy, France and Spain.” Best wishes to **Herb** and **Alice** to be able to make and enjoy their trip. . . . A fine message from **Elizabeth** and **Doug Baker** in East Middlebury, Vermont. “I am ashamed I have not written long ago, after returning from our wonderful reunion, to say what a grand time I had and how fully I realized it was so largely due to **Azel's** devotion to our class supreme and to the individuals composing it. Maybe the transition from the Cadillacs that brought me from the Cape to Boston, a means of transportation to which I am seldom exposed, to the more usual means, the night bus run from Boston to Vermont, brought me back too sharply to my every day habits which do not include letter writing.

# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	1/31/65			1/31/66		
	No. Active	No. Contribs	%	No. Contribs	%	
'09	124	50	40	42	34	
'10	137	40	29	41	30	
'11	143	73	51	65	45	
'12	151	52	34	53	35	
'13	180	74	41	75	42	
'14	163	57	35	61	37	
'15	209	87	42	70	34	
'16	224	77	34	81	36	
'17	280	84	30	94	34	
'18	259	74	29	81	31	

Elizabeth and I continue to be in good health for our age group and remarkably busy; she with activities related to mental health work, I with odd jobs which no one else wants to take on in our small town. Vermonters have discovered that retired people, though they may be, "foreigners" can still be instruments in a share the work program. This brings our best wishes and hopes that your 1966 travels will bring you to our neighborhood."

**Frank Boynton:** "Congratulations for the excellent job all you fellows did to make our 50th such a huge success." . . .

**Earle Brown:** "I surely hated to miss our 50th Reunion, but I was able to go to my 50th at University of California in November just before the big UC—Stanford game. I am showing good progress from my operation and am able to go to the office every day and I get a kick out of the work." . . . An unusually attractive card came from Verta and Jerry Coldwell.

. . . **Jack Dalton's** flattering greeting: "To M.I.T. Alumni's best Class Secretary." Well, thank you lots, Jack. . . .

Fran and **Henry Daley** warn us to keep smiling until we see Henry at the New York dinner. . . . **Ray DeLano:** "Every time I think about that reunion and the wonderful time we had I marvel at the hard work that must have been put into it to have made it such a great success and for which you personally deserve so much credit." . . . **Helen and Otto Hilbert** plan to spend six to eight winter weeks in the Caribbean. Ah, me! . . .

Since retiring **Ben Lapp** spends two days each week at the Children's Hospital in Buffalo, doing clerical work and he is glad of the chance to be of some service—very commendable. . . . While asking what the Macks might be doing this winter, **Marion and Vince Maconi** "place drop" on us that they will be in Florida. And **Helen and Boots Malone** in Sarasota:

"The memories of the 50th are still dancing in my head. Now that the Reunion is behind you, maybe you'll come up Vermont way next summer." We certainly hope to see their lovely place again.

Meantime, ah me! I hope we can take advantage of Virginia and **Hank Marion's** kind invitation to see them when we are in New York. . . . A clever and unusual hand made card shows scenes in the **Martha's Vineyard** lives of **Bee and Charlie Norton**. . . . On a striking print of Guido's "The Adoration of The Shepherds" **Mary Plummer Rice** wrote, "Daily

frost in Mill Valley (Calif.) so maybe I should have stayed in the East where we are used to the cold." . . . Mary's Mayflower cousin, **Al Sampson**, sent a beautiful card, a silk print of a Chinese Christmas scene. . . . A very dignified design from **Admiral Bill Smith**. . . . **Lena and Jim Tobey** from West Palm Beach: "We are fine. I am sorry to have missed our 50th, but just read about it in florid (a) terms in The Review. Since November 30 we have been suffering here in the 70° temperature but will suffer more excruciatingly later. I have been disporting in the ocean only once. Come on down unless you are using your well-earned loot to go to the Mediterranean, or somewhere." Ah me! again. **Ray Stringfield** in L.A.: "We're still jumping around quite lively, even though we have been out of school for 50 years. I surely enjoyed the reunion, and had a beautiful trip both ways, putting 8100 miles on the car to help out the gasoline companies, and missing almost all of the rain. I have been to Oakland and Fresno, Calif., and Lubbock, Texas, since coming back, but fortunately they postponed a case in Great Falls, Mont., that I was supposed to testify in. I am glad I had a little visit with Casselman, my old roommate, at the reunion. He had been out in L.A. the year before and then had a heart attack shortly after returning home and had not been well since. Thanks for letting us know of his passing. As you may know, their son Robert is now teaching at M.I.T. I saw **Bill Mellema**, **Ben Rivers** and **Bob Welles** at a recent M.I.T. Club meeting. Bob and I are still on the Board of the M.I.T. Club of South Calif. They're afraid to get rid of us." Pearl and **Louis Zepfner's** card with a plug for Tucson closed the list. Although I could not describe all your cards, we were happy to have them and many thanks to you all for remembering us.

Now to the friends, public and families of our Class. The **Ellis Brewsters 1913**, have an unusual card of silhouettes of themselves (**Ellen and Ellis**) and their 23 grandchildren. **Charlie Blodgett's** widow, **Cynthia**, wrote from Bangor that their children are all grown and away at schools and colleges, some married, some working. While in Boston for the holidays **Alice Chellman** wanted to see her old friends in Course I. **Sam Eisenberg's** widow, **Ida**: "What a Reunion—what a class—what a Secretary. I now have 12 grandchildren and am very happy they all

live near. One is in Law School and one was born last June." Fan and **Jeff Gfroerer, 1916**, have a granddaughter. **Margaret and Gilbert Mar, 1952**, son of (deceased) **Admiral Pellian Mar** sent a real oriental card from Taiwan, Free China. Many of you know **Lucy and Harry Murphy's** oldest son, **Peter**. His card was a group picture of his five young children, including **Jayne** born November 21, 1965—a lovely family. Co-chairman with **Al** of our annual Alumni Day Class Cocktail Party, **Barbara Thomas**, sent us each a gift and daughter **Virginia** sent a big card from Washington. **Mrs. Florence Joep** sent a touching acknowledgement of our Class memorial gift for **Ralph**, who passed away last July. **Vi and Dix Proctor, 1917**, wrote on their card about their coming freighter trip to distant and obscure ports. It is pleasant to hear from the families of departed Classmates, to maintain their Class contacts and interests: **Ruth Hayward**, **Darthea MacBride**, **Ruthie Place**, **Haya Hamburg**, **Mary Scully** and **May Sheils** and her children. **Edna and Frank Stubbings 1927**, **Louisville, Quebec**. "I read your lengthy epistle in the Review. You really are a wonderful secretary. How fortunate the Class of '15 has been to have had you for a secretary all these years. Keep up the good work!" Thank you for them kind words, but remember the Committees that did all the work. The hard working pair of '16ers, **Harold Dodge** and **Peb Stone**, rewarded me for my modest help on their 50th Reunion plans with nice cards. **Harold's** is his original recreation of **Corregio's** "Virgin in Adoration." **Peb's** is a nostalgic colored print of **Mrs. Stone** and him sitting on a terrace on the Grand Canal in Venice opposite **Chiesa Della Saluta**. Many thanks to them and best wishes for a big, successful 1916 50th (like ours).

With his keen and active interest in Class affairs, **Sam Berke** wants to get a few Classmates together for dinner and the evening when he gets to Boston in the Spring. It will be a pleasure, **Sam**. My attention was recently called to a Biblical passage in **Judges Chapter 13**, verse 24, which reads "And the woman has a son and called him **Samson**; and the child grew and the Lord blessed him." Now, if this should refer to our own **Al**, let's hope he doesn't tangle with any modern **Delilah**. It's wonderful to have these Christmas cards and messages—long may the flame of these fine friendships burn to warm and to light our lives into the future.—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge, Mass. 02142

## '16

We are glad to start off with a warm message from our good president, **Ralph Fletcher**, written just before he started off with **Sibyl** for a three-week active skiing vacation in Switzerland: "Very soon now we will be together to celebrate our 50th Reunion. I'm extremely happy about the prospects for this event. At the present time (mid-January) it would seem that we are going to have an overwhelm-

ing attendance and this makes all of us who are working on the Reunion plans very happy. We are doing everything we can to make certain that everyone who attends will enjoy him- or her-self to the utmost. This 50th Reunion of the Class of 1916 is a one-time event, but our aim is to have it make such an impact on each one of us that it will be a favored memory for all of us throughout our lives. Everyone on the Reunion Committee is trying to do the best job possible. If you have not been asked to work on a specific committee, do whatever you can between now and that weekend in June to contact classmates who are on the fence and urge them to join us for the 50th. My sincere best wishes to all of you and I look forward to being with you in June."

Now at the risk of just a little repetition, let us quote a bit from an earlier letter from Ralph to the 289 odd—no, wait, leave out the "odd"—living members of the Class of 1916. The 50th "will be different than all previous reunions, for the Institute invites us as guests to take the most prominent place at the Graduating Exercises on Friday, June 10. The Institute will furnish housing for us and our wives for the nights of our stay in Cambridge . . . We will march in the Academic Procession immediately after the Faculty and will wear caps and gowns provided by the Institute. Our wives will have reserved seats for the ceremony. Following the conclusion of these ceremonies and luncheon, the Class will have buses take us to the Oyster Harbors Club for the traditional 'Cape Reunion' festivities on Friday night, Saturday and Sunday. Sunday afternoon the buses will return us to the dormitories at Cambridge so that we may attend the President's and Mrs. Stratton's garden cocktail party and take part in the Alumni Day celebration on the campus on Monday. We will have reserved tables for the Alumni luncheon at which time our 50th Reunion gift to the Institute will be presented . . . I am writing this in order that you will reserve the dates of June 10, 11, 12, and 13, so that nothing will interfere with your joining all of the Class for this BIG reunion of the Class of 1916."

Our 50th Reunion Chairman **Steve Brophy** and his Reunion Committee have been holding busy meetings in New York to work out more of the many details of the big June occasion. Regional chairmen have been contacting individuals all over —**Jim Evans** in the Atlantic Coast plus Connecticut area, **Ralph Fletcher** in New England, **Cy Guething** of Detroit in the Middle West, **Vert Young** of Bogalusa in the South, and **Irv McDaniel** of Newport Beach in the West and Southwest. As of now (mid January), Host Committees in Cambridge and in Osterville are developing their plans, **Len Best's** and **Harold Dodge's** Geographic Register with addresses of all living members has been distributed, **Peb Stone's** Reunion Directory, with surprise entries, is close to ready for dummyping; **Joe Barker** and **Bill Barrett** continue their thankless work on the Alumni gifts; **Bob O'Brien**, our honorary member and Reunion Secretary, is getting ready to print and distribute **Steve Brophy's** first '66 mailing with more de-

tails about costs and all; plans are percolating for something so extra special we can't talk about it for the Kresge Auditorium on Monday evening June 13th; and many are thinking of the fun of multi-busfull travel to and from Osterville. So, as **Steve** says, don't miss it, whatever you do!

One of the rewards of being a Class Secretary is the wonderful set of Christmas cards that come from all over everywhere. We are happy to report receiving cards for example from the following widows of our departed classmates with greetings and best wishes to the Class of 1916—**Mrs. Steve (E. Louise) Berke**, **Mrs. Ernest C. (Eva Chandler) Gagnon**, **Mrs. Russell E. (Vera) Lowe**, **Mrs. Halbert (Ida) Neilson**, and **Mrs. Robert E. (Pearl) Wilson**. At the reunion we will repeat as usual a showing of the Christmas cards made by '16ers, including this year those from the brush, pen, and silk screen of **Bill Drummey**, **Ed Hanford**, **Irv McDaniel**, and your Secretary. We would appreciate receiving, for inclusion in the Reunion display, any other '16-made Christmas cards for 1965. And of course we are always looking for newspaper clippings to put on the reunion bulletin board.

We would like to include the letter received from **Mrs. Halbert Neilson** at Christmas: "The past year I have had so many wonderful letters from different members of the Class of 1916, M.I.T. It made me feel so proud to have been able

## 50th Reunion

to meet them and be more capable of understanding **Halbert's** reminiscing." . . . And referring back to Christmas cards, **Allen Pettee** writes: "I tried once to produce a card (and did) by reverse-etching linoleum—an intricate house entrance with an iron grille fence. Nearly lost my eyesight. I hope you had better luck."

**Cy Guething** tells us he and **Gyps** are going right back to Harbour Island, Bahamas, in January in spite of the damage done by was-it-Betsy last year. Then says **Cy**: "Then to La Coquille Club at Palm Beach or just south of it from March 1 to the 15th. If any of the Class brothers are in the neighborhood while we are there, I shall arrange for their credit to buy us drinks." Now there's an offer for **Jap Carr** and others nearby, or even for travelers who might be able to get that far! And **Jap Carr** himself, in Palm Beach since November 10, says they have been busy on some Florida real estate matters: "As it threatens to interfere with my tennis I should retire 'lower.' **Frank Ross** was just playing in a Senior Golf Tournament on the Breakers Hotel course just 100 yards from our house, but somehow I didn't get in touch with him. His picture was in the paper." If you haven't seen poetry in motion, wait until you see **Frank** on the golf course at the Reunion!

We have some pictures of **Joe** and **Mary Barker** to put on the bulletin board at the reunion. These come from the Trinity Parish Newsletter, New York, Oct.-Nov. 1965. One shows **Joe (Dr. J. W. Barker)**

in a group "Viewing Memorial Shrine," and the other, both **Mary** and **Joe** at the Annual Harvest Supper alongside the caption, "Trinity's Churchwardens support the singing: (left to right) **Mrs. J. W. Barker**, **Mr. F. E. Hasler**, and **Dr. Barker**."

The **Willard Browns** tell of a lovely Christmas with their daughter and family in Midland, Mich., "a continuous round of parties—even one with Swedish-related friends serving authentic, and very authoritative Swedish Glug, a hot mixture of brandy, port wine, and goodness knows what else. Very good in that Northern approaching-zero-temperature country." He had given his two granddaughters, 15 and 13, "one of these new-craze miniature road racing sets, and it sure got a lively workout by the adults who dropped by during the holidays. Even in Midland there is a place with one of the 250-ft. long 6-track 'roads' where you can use your own cars and controllers and have match races. I guess there must be a dozen such in Cleveland—50 cents per half hour for the track and current and 'officials.' It's quite a craze."

Are you going to be in New York between now and Reunion time? If so try to make it include the Thursday following the first Monday of any month. Why? Because that is when we have our monthly Class luncheon in the Chemists' Club at 52 East 41st Street, just a block from Grand Central Station. And if you do get there, what will you do and see? First of all, if you behave as five out of 11 did at the January luncheon, you'll have one of those tempting sizzling golden bucks that the chef sure knows how to design and produce. And second, you'll find a goodly crowd of both '16ers and '17ers on a pushed-together group of tables on the upper dining level. For January, we are glad to give the vital statistics. Counting one post-luncheon attendant in each group (**Brophy** and **Newburg**), the Class of 1916 had eight, the Messrs. **Barker**, **Binger**, **Brophy**, **Dodge**, **Evans**, **Gruber**, **Mendelson**, and **Stone**, and the Class of 1917 had five, probably listed on the next page or so in the 1917 notes. And **Dix Procter '17**, the hard-working but soon-off-to-West-Africa assistant secretary of the Class of 1917 was the jolly distributor of good cigars to all who still aren't afraid of tobacco. And speaking of luncheons and Africa, a note from **Harold Gray** in Fayetteville, N.Y., reads: "I never seem to be in New York for the monthly luncheons. This month it will be the 21st—we fly to Africa on the 22nd for a two-months trip."

We hear from **Joe Farhi** every once in awhile, our good-will ambassador from Turkey in the good old school days. He lives in Brooklyn, was with **Con Edison** on design work until retirement about three years ago, but continues active, for even before his retirement, he was invited by another company to continue working with them. . . . **Raef Alfaro-Moran** in San Salvador writes hopefully: "Things may improve and if they do I certainly will do all I can to get to Cambridge for our 50th Reunion. I suppose it might be the last chance to see some of the old crowd and one should not miss it." He says further: "It was a great

pleasure to hear from you and to get an idea of what you fellows are doing to keep contacts among the old '16 crowd. I am afraid I have been very lax in that respect but the truth is that what we have to contend with in a country like El Salvador is very different from American customs and standards. At first I traveled quite frequently but I haven't been in the States since 1940 and I lost the few friends I used to see on my trips. I had a long and very interesting letter from **Gene Lucas** that I will answer within the next few days. You may remember we did our theses together. Later we were in the same regiment in the first World War so we have had a lot in common. I have letters and cards from several others and will answer all of them for I have certainly been glad to hear from them." Hopefully Raef may have the distinction of being acclaimed as the Reunion long-distance winner at the 50th!

From **Bill Leach** comes this word: "We are looking forward to seeing you and all the others at the 50th. **Ray Brown** is coming. **Chet Richardson** lives in Youngstown, N.Y. (where the Leaches have a summer place—Sec.) and says he can't make it. He has a cherry farm and that is his busy season."

**Jeff Gfroerer** was the principal cause of an interesting event at Yale University in January, as announced in this way: "Yale University Library, Historical Sound Recordings Program, cordially invites you to a reception opening the exhibition: Churchill and His Recordings; Thursday, January 6th, 1966, 4:30—5:30 P.M.; Lecture Room, Sterling Memorial Library." A year ago Winston Churchill sent Jeff a Christmas gift of his recordings, covering "His memories and his speeches, 1918-1945." And the January recording program was the result of Jeff's making a gift to Yale, of this gift of Churchill recordings, plus all Jeff's records, files, recordings, and pictures for the periods of his contacts with Churchill—1946, 1949-50, and 1964-65. As reported in an earlier issue, Jeff had found a copy of the one Churchill book that was missing in the Churchill library, and had a copy made up and sent to Churchill just before his death on January 26 last year.

In November there was not just one "to-do" that should be mentioned but two of them. And unless we are very much mistaken, they both occurred on the same day. One was an event in Bedford, N.H., long-delayed it seems to many of us, that changed the status of our good president, **Ralph Fletcher**, from the only-69 class to the maturity of the just-70 class! The other was a joint event by **Francis** and **Gladys Stern** in Hartford, something that we all hope to have some day, unless we happen to be one of the very small group like the Theron Curtises who have already had a 50th Wedding Anniversary! Congratulations all around!

As mentioned in the January issue, we were distressed to hear of the death of **Joao (John) Nunes Correia** in August. Many of us in E.E. knew him well and fondly were looking forward to seeing him at the 50th and talking with him about his 50 years of professional life

since graduation. We have a nice letter from his widow who wishes to thank John's classmates for their expressions of sympathy. In response to our request she has given us a most interesting account of John's career. After high-school in his native city of Lisbon, where he was a brilliant student, John joined the Charlottenburg University of Berlin to study electrical engineering. When the first world war broke out in 1914, he had to interrupt his studies and leave Germany. The only way open to him to reach Portugal was by train to Italy. En route, on the train, he made the acquaintance of an American engineer, a graduate of M.I.T., who strongly advised him to go to America and to continue his studies at M.I.T. "already known then as the best engineering school in America." Thus it was through this casual encounter that John became, presumably, the first Portuguese to enroll at M.I.T. Mrs. Correia notes: "After graduating in 1916, John was employed with the Western Electric Company, and for his researches there, held some 20 little patents. Though he intended to remain in America, he was overcome by homesickness for his own people, especially his mother, and he returned home to Portugal. His father died when he was only 11 years old." After returning, he was made a director of the Companhia Colonial de Navegacao. He stayed there for 12 years. It was during this period in 1930 that he established his own business in heating, refrigeration and air-conditioning, and the engineering firm of Eng. J. Nunes Correia was founded. It expanded rapidly and soon became the foremost organization of its kind in the country. He returned to America twice for studies and observations and in 1938 took over the sole agency of the Carrier Corporation for Portugal, the first in this line of industry in the country. He established his own work-shop to make his own supplies in Lisbon, and another center in Oporto. As Mrs. Correia notes: "His name became well-known and respected for his integrity and perfection in all his undertakings. The following translation of an excerpt of a letter written by one of his colleagues, whose father was the greatest architect in this country during his lifetime, will speak for itself: 'Ever since I was very young, I have heard of the name of J.N.C., always closely related with the most important works done by my late father, who held a great esteem and friendship for him, not only for his real technical value but also for his professional honesty, which greatly enhanced their collaboration in their work together.'" Two years ago John decided to convert his firm into a limited company, that is, with share holders, allotting a certain number of shares to some of his employees, and the company became known as "Industrias Termicas Nunes Correia" (Industries Thermal Nunes Correia).

John was married to Irene de Vasconcellos, a well-known journalist and the first Iberian lady to obtain a doctorate from the Sorbonne University of Paris. He left no children. In his will, John bequeathed part of his business to 32 of his

faithful employees and to the brother and nephews who worked with him, the greater part of the rest of his fortune going to his widow, who assumed one of the directorships of the business. After her, the shares of the firm will go to the Employees Benefit Fund established by John before his death. On the 35th anniversary of his firm which would have been celebrated in December, it was his plan to hold special commemorations and to recompense all who have had 30 years' service or more. The plan is being adhered to but without the celebration. . . . In a letter to your secretary, William C. Davis '11 notes that the Correias were very kind and hospitable to the Davises during a visit to Lisbon in 1959. "We visited them in their Lisbon home and their country place. They did everything possible to make our stay a pleasant and unforgettable one."

In New Jersey we have a problem of taxes, and at present real estate gets the brunt of it. Now there are two proposed ways of raising new monies—state income tax and state sales tax. The Governor hopes the new all-Democratic legislature will help get an income tax. But there is strong pressure for a sales tax, and our own **Len Best** of Summit is the Chairman of the "Citizen's Action Committee for a Sales Tax." It's going to be a hard fight, but Len has been remarkably successful in recent state bond issue moves. So, we predict—watch the papers—a sales tax rather than an income tax!!!

**Earle Pearson** has a suggestion for a no-worry travel tour of the good old U.S.A. For him the highlight of 1965 was the trip he and his wife took by train from Florida to the West Coast and back. He says: "We went to Chicago for overnight, then via the Vista Dome Zephyr to San Francisco, to Los Angeles via the coast daylight, then through the desert to New Orleans and back to Florida. With a few days in each city, we were able to see the 'must places' for tourists, such as an evening at the Top of the Mark, Fisherman's Wharf, Disney Land, Hollywood and Beverly Hills, the French Quarter with Armand's and Antoine's. With tours in each city and the mountains and desert scenery en route, we had a truly enjoyable experience. No transportation worries, as when driving a car, was an important feature. We can heartily recommend such a trip for anyone who has never seen these parts of our country." Then: "Now we are looking forward to the highlight of 1966. What else could it be but our 1916 Class Fiftieth Reunion in June!"

In December **Ray Brown** reported visiting **Pete Mahlman** in the Fairchild Nursing Home in Lewiston, N.Y., where he was making good progress from a mild stroke about a month before. Ray said Pete expected to be with his daughter and family for Christmas in Lewiston. As for Ray, he and Melva were just leaving home "to visit my oldest son Richard and family over Christmas in Horseheads, N.Y. To get up an appetite for dinner on the 25th I expect one or two or all three granddaughters will guide me up and down their five acre wooded hillside. I shall not attempt to ride granddaughter

Stephanie's horse over the trail—not taking any chances on an accident and perhaps missing the 50th."

**Irv McDaniel** reports hearing from fellow-architect **Samuel Lapham** in Charleston, S.C., who says that while he may be a 50-50 attendee at the 50th in June, he will surely be there in spirit. He recalls that Course IV attendance at reunions has been disappointing, that at the 25th most of those there were strangers, and that the architectural course just seemed to continue separate from the other courses at Tech. He said that **Bill Dodge** in Asheville has not been too well, that he had not heard from **L. Waring Wilson** for 10 years—faintly remembered that he had gone to Mexico, that he saw **Charles Cellarius** in Cincinnati in May 1964 and **George Spooner** this last April for the first time in 48 years.

**David Shohet**, D.M.D. of Haverhill, is still going strong—says he hasn't the desire nor the time to even think about retiring. He adds: "Having been fortunate in retaining my good health, my great curiosity, and the perfect mate, it has been my great pleasure to have done a good deal of travelling which has kept me young at heart." . . . In early January **Saul Hoffman** sent along a little newspaper clipping that he thought might be good for a laugh at this pre-union time. It read: "Today's Gem: A class reunion's when people get together to see who's falling apart."

We sometimes wonder just a little bit whether **Emory Kemp** is on somebody's board of directors to convince Northerners that Florida, particularly Sarasota, has just about the finest weather of any state in the U.S.A., with such statements as: "today 80 degrees, will average about 74 degrees for December, nighttime average 48 to 50, sunshine practically 90 per cent of the month, only three days with showers," etc. Knowing **Emory**, it practically has to be true, even though he gives total rainfall to two decimal places—"1.25 inches." He tells of an interesting talk on the development of the sports program at M.I.T. by Mr. Smith, the athletic director, at the December ladies night dinner and meeting of the Alumni Club of S. West Florida. **Emory** has been elected M.I.T. Council representative of this club for 1966 and plans to attend the May 23 and June 13 meetings of the Council while he is north for the Reunion. Both **Emory** and **Ruth** are active—deacon and deaconess—in the First Congregational Church in Sarasota.

Again the column comes to a close, one month closer to the time when we take off for Cambridge and Osterville for the BIG 50th. **Ralph** and **Steve** and the Committee again urge—keep those dates clear: June 10-13. Once more, to keep the column full and interesting, write a little but write often to any of your class officers: **Harold F. Dodge**, Secretary, 96 Briarcliff Rd., Mountain Lakes, N.J.; **Ralph A. Fletcher**, President, Box 71, West Chelmsford, Mass.; **Joseph W. Barker**, Vice-president, 45 Beechmont Dr., New Rochelle, N.Y.; **Hovey T. Freeman**, 45 Hazard Ave., Providence, R.I.; **T. D'Arcy Brophy**, Reunion Chairman, 470 Park Ave., New York 22, N.Y.

# '17

As these notes are being edited on the 11th of January, 1966, New York City is in the throes of a Transportation strike—no busses or subways.

**Ray** and **Betty Ramsey** are on a cruise around the world on the SS *Seven Seas*. This is a project called "University of 7-Seas." **Betty** and **Ray** are auditors. . . . **Bill** and **Doris Hunter** are leaving Plainfield, N.J., about the 15th of January to drive to Pasadena, Calif., to be gone about three months. They will go by way of Pittsburgh, Dayton, Indianapolis, St. Louis, Memphis, New Orleans, Houston, Dallas, Albuquerque, Phoenix, and Los Angeles. They are looking for sales dealers for Servo Products Company, who manufacture a table feed for hand fed type milling machines. They further write they hope to make the Fiesta in Mexico City in March. Returning from Pasadena late April they plan to drive by Salt Lake City, Denver, Omaha, Chicago and Detroit. Their Christmas was celebrated in Plainfield at their apartment with son, daughter and six grandchildren. **Bill** remarks, "Needless to say some had to sleep at relatives and motels." Good luck to you. . . . **Enos Curtin** quotes, "Surprised to see the turn-out at the January '16-'17 luncheon at the Chemists' Club in New York in defiance of Mike Quill. Madison Square Garden on schedule, expect everyone for the opening in 1967." The old landmark of Pennsylvania Station is scarcely recognizable. To preserve for future generations, the columns have been erected in Battery Park. At the present time bare iron work is all that is visible above ground, although the railroad services are still functioning underground, and the Long Island Railroad trains are running into the station even during the Transit Strike. . . . **Joe Littlefield** has retired as Research Director of Finance Executives Institute, and will spend the next eight months as consultant to his successor. In December his organization published the results of three years of research by Professor David Solomons of the University of Pennsylvania, entitled "Divisional Performance; Measurement & Control." **Joe** hopes to complete his own research project by August, and after that "who knows."

From the minutes of the 381st Meeting of the Alumni Council of the Institute, it is noted that **Bill Dennen's** son, class of '42 visited the M.I.T. Clubs in October at Harrisburg, Scranton and Bethlehem, Pa. We further note in June, 1965, the Institute established a new Department of Political Science and created a Corporation Visiting Committee for the new Department. The Executive Committee nominated three Alumni for three year terms and **John A. Lunn** is one of them. Also we see that **Al** has been appointed General Chairman for The Long Range Planning Committee. Further **Ray Stevens** is Chairman of the Committee on Communications.

We are advised that **Rudy Beaver** has ups and downs, but is happy to have lived so long so well, and has no great current

worries. He is now approaching four score years and doing well for his age in spite of having suffered a shock several years ago. Well **Rudy**, good luck and more power to you. . . . **Elmer C. Matthews**, we read, overcame a couple of operations during 1965 and is now continuing to enjoy his retirement in Orlando, Fla.

As of the 16th of December we have another report that **Ray Blanchard** is making good normal progress. . . . **Bill Eddy** is still commuting to Trinidad, where he has an office and his travels take him to other far away spots. He keeps in shape by a lot of walking, bicycling, and continuous activity. He would be in good form in N.Y.C. what with our transit strike! . . . We have a note via Santa Claus, that **Tom Meloy** will have a new address as of January 1 this year, namely 1010 16th St., N.W., Washington, D.C. . . . From the faint postmark on a postal from **Ray Stevens** it appears he has arrived in Naples, Fla., as of January 1. I understand, **Ray**, that they are wearing fur lined swim suits in Florida this winter—how about a black and white print!

**Dorothy Proctor**, the widow of **J. Worthen Proctor**, writes a most interesting letter, and it is good to hear from our widows once in awhile. She writes, "How much Worthen wanted to make the trip to Manchester, Vt., the 47th Reunion, to be with you all. He was so devoted in his work with our son Robert that he felt unable to take the time off."

Relative to the three surprises at the December luncheon at the Chemist Club in New York City, the first was the presence of **Dick Catlett**, second **Ray Stevens** shuttled down, and third, there was an attendance of 17, our largest in many months. We are most appreciative of **Dick Catlett's** advising the Secretary well in advance of his coming, to quote: "I am going to be in New York on the 9th of December. If my memory serves me correctly this will be the day of a '17 Luncheon at the Chemists' Club, and I should be able to join the group. Please let me know by the enclosed postal card whether I am right. It will be good to see you and other old friends." Out-of-towners please take note and "Go Thou and Do Likewise." Might I suggest **Dick**, that next time you plan to stay at the Chemists' Club and thus favor your wayward esophagus. The '17 ers present included **Burt Morton**, **Bob Erb**, **Bill Hunter**, **Bill Sullivan**, **Dick Loengard**, **Dick Catlett**, **Ray Stevens**, **Bill Neuberg**, and **Dix Proctor**. At the January luncheon present were **Bill Hunter**, **Joe Littlefield**, **Enos Curtin**, **Dix Proctor** and **Bill Neuberg**, who preferred bridge to eating. Referring to the '16 notes in the January issue of *The Review*, we note that **Ken Richmond** has been adopted by them. Well this gives **Ken** two good reasons for attending the monthly luncheons.

**Lucius Hill**, (Loosh) how are the contributions to the Treasury coming in? Our 49th will be coming soon, and the big 50th next year!—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford, Conn. 06107; **C. D. Proctor**, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J. 07035.

A good letter is an absent friend speaking across the miles, so we can feel the pressure of another's hand. **John Kilduff** is not one to listen with unresponsive indifference and has sent me a lengthy epistle concerning his recent doings. "As you know," he begins, "in our earlier days I was always a strong advocate of physical fitness. My years as a physical training instructor at M.I.T. helped to develop a foundation which has since supplied me with endurance to withstand many long, hard efforts. However, it was not until a few nights ago that I discovered the full extent to which that foundation has endowed me. It came about first because of a lifelong compulsion to be punctual, and second because my membership in the Alumni Council is the kind of privilege which makes me want to attend every meeting. Consequently, when I suddenly realized that some repair work on my automobile would not be completed in time for me to make the December meeting, I rushed home and set out for Cambridge with all speed, driving my seven horsepower lawn mower. Once I reached the U.S. 95 turnpike the going was easy. The little engine practically sailed up and down those hills as smoothly as a Rolls Royce. I was dumbfounded to discover that by my own watch I had made the 45 miles in two hours and 15 minutes. The time had simply lapped by. However, I was horrified to notice, while attempting to park the gallant little mower behind the Faculty Club, that in my haste to get away from home I had neglected to attach the riding sulky. I had just held on and run that forty-five miles without the slightest sign of exhaustion. That was comforting. On the other hand, common sense told me that I couldn't possibly repeat the performance in the other direction. To try without a night's sleep would be foolhardy. But when we M.I.T.'ers come to a hurdle we don't rein in. We gather all our energies and have at it. In this instance, I decided to rig the mower as a motorcycle. There are usually a few spare wheels somewhere around the Sloan Building. Being lucky, I found one. When the Council Meeting was over and I had the wheel assembled, the return journey was begun with understandable anxiety. It was only when I was back on the turnpike that trouble began. I caught up with a traffic jam. To avoid delay, because it was already late, I turned off toward the center of Peabody. Despite the lateness of the hour, when I got there, the bizarre contraption I was riding made so much noise I was suddenly surrounded by a large group of pedestrians. Those possessed of an appreciation of ingenuity expressed surprise. A few ridiculed. Still others called for help to make my "green cutting" machine work more efficiently. Well, with all that commotion I woke up. Even if I can't run forty-five miles in my seventieth year, I can still dream that I did! Were these Biblical times, I would call in the lord high astrologist to interpret the full meaning of this vivid, realistic experience. Perhaps a psychoanalyst would give me

an interpretation after five sessions at a fat fee. Better still, I'll interpret it for you myself. To launch a drive all alone for our 50 year gift to Technology is about as difficult as following a lawnmower for forty-five miles to Cambridge, but it is not impossible. That extra wheel picked up near the Sloan Building represented the chairman of that 50 year gift. He will organize the drive in various areas. The crowd in Peabody Square represents the classmates who appreciate what M.I.T. did for them, and who will join in getting the fund home in a way we can be proud of. You can see that I have faith, too."

**Sax Fletcher** is another who has spoken across the miles so we can all feel the pressure of his hand. Before touching on the enchanted atmosphere of the Orient, he explains, "We had no intention of taking this trip until a physician friend of ours told us that he and his wife were to attend the 8th International Congress of Oto-Rhino-Laryngology in Tokyo during October, and that there was room on the chartered plane from New York. The only hitch was the requirement that I be a member of the International Correspondence Society of Ophthalmologists and Otolaryngologists. So for \$12.50 I joined and became a doctor. We took off from New York in the largest plane I have ever been in, picked up another group in Chicago, and a third in Seattle. This made 170 people, 98% physicians and their wives. We left Seattle about dusk and were in Tokyo nine hours later. You will figure that we arrived in the morning, but the rotation of the earth and the counter flight of the plane, plus the international date line, made it after dark the next night. Following a week of sightseeing in Tokyo, instead of resting and getting adjusted to the change in time, we started to 'do' Japan. It was a fascinating and strenuous two weeks. TOHO theater starts at 5 P.M. and during an intermission everyone goes out for dinner. The show ends about 10 P.M. because the Japanese do not stay up late. Even the night clubs close by 11:00. We could not understand the actors' language, but could enjoy scenery, costumes, action and audience response. The next day we went through Yokohama on the way to Kamakura and Daibutsu. We saw the great image of Buddha (1252 A.D.) and had lunch at the Kaseiro Chinese Restaurant. This was our first experience sitting on the floor to eat a meal. At our age it becomes something of an achievement. Try it sometime. After lunch came the Hakone National Park along the seacoast of Sagami Bay, ending up for the night at the delightful old Fujiya Hotel overlooking Mt. Fuji. At Atami, which we reached via the Owakidani Valley and Lake Hakone, we had our first ride on the Japanese National Railway. These trains are really fast, averaging about 125 M.P.H., and after breaking in the roadbed will eventually run even faster. They are well appointed, and always on time. Our particular train, 'Kadama #123' was controlled electrically from Tokyo, a hundred miles away. All the engineer does is to stop and start at the station. I suspect that could be done from Tokyo too if they were not afraid of running into some-

thing. We visited the famous Mikimoto Pearl Island where the cultured pearls are grown and processed. We saw the girls diving for oysters. They wear more than the photographs would lead one to believe. It is a loose, white uniform, I suppose for protection against the sharks of the sea and the more dangerous ones ashore. Osaka was our next overnight destination where we were awakened early in order to board the Kaisai Kiseni steamer. It runs the length of the Inland Sea from Osaka to Beppu. The latter is a health resort with bubbling sulphur springs piped into the Hinago Hotel where either Japanese or American style furnishings are available. Several of the party tried the local accommodations. We decided on a good old American spring mattress instead of a straw mat on the floor. Judging from the conversation next morning I think ours was the wiser choice." (To be continued next month.)

Because the first section of The Review to be put to bed is the Class Notes, this is being written right after Christmas. There is no other time of the year when so many greetings are conveyed through the mails, carrying across the miles the kind of handclasp we have been alluding to. . . . **John Alston Clark**, with ink flowing from his quill at the University in Tuscaloosa, Ala., says, "We should be able to come up with a better explanation of what happened in the Los Angeles rioting, where 35 died and 900 were injured, than I have seen in print . . . and how to prevent a recurrence." . . . From near-by Miami, Fla., **Fred Philbrick** says, "Our most serious problems during the past year were due to Hurricane Betsy. My home was not damaged, but a house on the waterfront we own was under three to four feet of water due to the high tide. It happens about once in 20 years. It took a lot of work to get things back to normal. We are now approaching the end of the task." . . . **Jim Flint** in Columbus, Ohio, writes, "I owe you a letter. Have faith. I promise that you will get it." . . . Together with the season's greetings, **Al Grossman** sent a photo taken last June at the Wianno Club interim reunion. . . . **Bill Wills'** widow, Marguerite, sent her best wishes, as did Don Merrill's widow, Ruth. Surely it is important that we reach out our hands to them too. A handclasp is capable of conveying so much. . . . **Clarence Fuller** wrote, "It's time for Santa to dust our chimneys again, but I'm still wondering what hit me last April. The doctor called it 'business-man's-fatigue.' However, in spite of vitamins, good food, iron pills, etc. I'm not able to increase my umph-power to a normal level. So I stay close to home and follow Chauncey Depew's advice—'Don't walk if you can ride'. I do try to put in a few hours every day at the office. The company rolls along about the same whether I do or not. Isn't it amazing how fast the years steal by! I wish I could have made the Wianno gathering in June. The account in the Review was heartwarming, even five months after the event. My own literary effort at a family genealogy has now reached back eight generations of Fullers (counting me as the ninth). I can write up the prosy facts, but

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'20

'21

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# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	1/31/65			1/31/66		
	No. Active	No. Contribs	%	No. Contribs	%	
'19	256	60	23	72	28	
'20	292	105	36	104	36	
'21	481	129	27	139	28	
'22	646	171	26	178	28	
'23	556	175	31	170	31	

was observed not only with the traditional tributes but also uniquely memorialized by the editing and publishing of a complete issue of the company's "Rubber Chem Lines Magazine," devoted entirely to Arnold and his life's history. Called "Mr. Rubber Chemicals" by the editor, who says Arnold has left his permanent mark on the rubber industry, the article portrays his South Montville, Maine, childhood in a family of 16 children, his attendance at a one-room schoolhouse under a teacher who had been a student the year before in the same school and his journey to live with a relative in Milford, Mass., in order to attend a high school. Accustomed as we are to delving back into the history of '21ers, it was nevertheless a pleasant surprise to see above the caption "On the threshold of life's great adventure—M.I.T. 1921," a familiar face—that of Jeff Davis as we knew him at the time the picture was taken for the Senior Portfolio in "Technique." His career is traced through his first association as a chemist with the then footwear division of Firestone Tire and Rubber Company in Hudson, Mass., to become its chief chemist and then superintendent of the heel and sole plant, when Firestone sold its holdings to the U.S. Rubber Company. Since joining Cyanamid in 1936 as group leader of the Rubber Chemicals Technical Service Department in Stamford, Conn., Jeff has carried on development of civilian and military products in the compounding of rubber. As the section manager and head of the steering committee for the Rubber Chemicals Department, he directed research and application personnel in the development of new synthetics and rubber testing equipment. Most recently, as the manager of technical services, he devoted his efforts toward assisting users with compounding problems, analytical evaluations and product specifications. The publication includes numerous signed letters of appreciation from Cyanamid officers, those of competitive companies, customers, industry associations and trade paper editors. A full page details Jeff's dozen or so formal journal publications (in addition to uncounted articles for Cyanamid publications) and describes his 35 patents. He maintains membership in the American Chemical Society and the American Institute of Chemists and has been recognized as one of the top contributors to the world's rubber literature. The publication also shows Arnold at work and bears a current portrait. In addition, a homey touch is given by a group photograph of his lovely wife, his three sons and daughter.

On June 1, 1926, it is recorded, he married Cecilia Coggins of Hudson, Mass. We'll be able to congratulate them on their 40th anniversary at the Reunion! Leland, Norman (Boston University) and George (University of Maine) are all married and there are six grandchildren. Martha, who attended the University of Connecticut, lives at home. The editor concludes: "Arnold Davis is a very warm, interesting person who has never lost his New England heritage of integrity and downright common sense. His family life can be summed up in the words of his wife: 'He has no time for hobbies, but he can fix most anything. He enjoys gardening and the fruits of the harvest that it brings.' Arnold and his wife now live at 95 Orchard Lane, Berkeley Heights, N. J. 07922, a suburban area some 12 miles from the Cyanamid base of operations. His retirement plans include the enjoyment of puttering about the house, doing some of the things and seeing some of the places that have eluded him and his wife during the working years. My contacts with him have been frequent and most pleasant. His assistance has been genuine and comforting; his advice straightforward and without reservation. My satisfaction in telling this story is increased, immeasurably, because of knowing him personally." In adding our congratulations on behalf of Arnold's friends in the Class of '21, we also feel that Cyanamid should be praised for pioneering in a human approach in thus extending its appreciation to a loyal and industrious employee, who has devoted his entire life to the company's advancement. May others go and do likewise!

Nor is Jeff's the only recognition of the month. **Monroe C. Hawes** was the honored guest at a dinner of the Monmouth County Assessors Association in Asbury Park, N.J. Munnies was recognized and highly commended for his more than 28 years of continuous service as the assessor of Sea Girt, N.J. 08750, where he makes his home at 320 Boston Avenue. . . . **Henry R. Kurth**, our durable Class Representative on the Alumni Council, was honored at that august body's last meeting for 1965. He was one of 15 alumni who were presented with certificates of achievement for their outstanding work in helping to attain the goals of the 1965 Amity Fund. Chick is the Special Gifts Chairman of the Greater Boston Area for our Class. We acknowledge a complimentary letter, strongly seconding our urging of every classmate to endeavor to attend our reunion next June, in which Chick says, in part: "This period of transition of many

of our classmates from labor to retirement is apt to result in losing contact and interest. Special effort is needed to make retirees know that they are very much wanted in attendance by their real friends—their M.I.T. associates." . . . Bouquets all around for this most interesting holiday message from Anne and **George Schnitzler**: "As a change from our usual summer vacation in the White Mountains of New Hampshire, we followed the suggestion of Father Everett R. Harman of Cedar City, Utah, which appeared in your '21 Class News when the question of a site for an interim Class reunion was last considered. We had a wonderful time, visiting in Zion Park and Bryce Canyon in Utah and the Grand Canyon in Arizona—to say nothing of Las Vegas, Los Angeles, Yosemite Valley and San Francisco, which we ourselves added to the trip you outlined in The Review. We are very grateful to Father Harman for his suggestion. We traveled to Cedar City to see him but, when we got there, we learned that he had retired and had gone to live somewhere in the neighborhood of Los Angeles and we never did reach him. Right now, we are spending the winter in Florida and very much looking forward to our reunion next June." We have written the Schnitzlers at their winter address, 1932 N. Michigan Ave., Miami Beach, Fla. 33139, and thanked them for letting us know that someone really read the Class News and also makes practical use of our endeavors. We have additionally written to **Father Harman** in response to his welcome Christmas card and sent him our thanks as well as those from Anne and George. Ev says he is continuing on the road to recovery from his major surgery. As reported in the January notes, he celebrated his 70th birthday with his discharge from the California hospital conducted by the Sisters of St. Joseph of Carondelet. He is remaining there to assist the regular chaplain and will welcome your note of greeting, which should be addressed to him at the Daniel Freeman Hospital, 333 N. Prairie Ave., Inglewood, Calif. 90301.

**Donald B. Lovis** has retired from the New England Telephone Company and now makes his home at 455 N.E. Tenth St., Boca Raton, Fla. 33432. . . . Writing from their home at 3 Bayville Dr., Baytown, Texas 77520, Mary Louise and **Richmond S. Clark** say: "This has been an interesting and busy year, with activities centered around our new boat, the 'Malurich IV.' We took two long cruises down the intercoastal waterway to Rockport, Port Arkansas and Corpus Christi. Weekend picnics and the minor upkeep always needed for a boat have filled out the year. We expect to attend the reunion next June and will see you and Maxine there." . . . **Arthur L. Silver** sent the new address of his insurance consulting office as 161 S. Easton Rd., Glenside, Pa. 19038, but forgot to enclose the Class questionnaire. . . . **Fairfield E. Raymond** has retired from Northeast Weather Services, Inc., of Bedford Airport, Mass., and now receives mail via R.F.D. No. 1, Happy Valley, Peterborough, N.H. 03458. . . . **C. Levon Eksergian** hasn't

yet told his reunion plans with a returned questionnaire but gives his current home address as "Rock House," 431 E. Tree Rd., Media, Pa. 19063. . . . **Robert E. Waterman**, retired senior vice-president of the Schering Corporation, Bloomfield, N.J., maker of pharmaceuticals, says he'll attend the reunion. Bob's winter address is 920 Hibiscus Lane, Delray Beach, Fla. 33444, and he still maintains his home at Spring Valley Rd., Morristown, N.J. 07960. . . . **Willard G. Loesch**, 107 Kensington Oval, Rocky River, Ohio 44116, writes: "Josephine and I will be on a cruise to South and East Africa from March 18 to June 1 and hope we'll have enough pep left to make the 45th reunion when we return! Count on us being there, for it is not given to all of us to make this important engagement and we should all take advantage of it, given the opportunity." Thanks for those words, Bill. . . . Only other Beta so far reporting he will attend the reunion is **Chesterton S. Knight**, 151 Moraine St., Brockton, Mass. 02401. Chet says he is still in the daily grind as a partner and the treasurer of Geo. Knight and Company, Inc., Brockton machinery manufacturer. . . . Writing from his winter home at 745 Greentwig Rd., Vero Beach, Fla., **George F. B. Owens** says he and Muriel will be with us for the June events. George says his mail should be addressed to P.O. Box 3025, Vero Beach. Besides the Owens couple, the Course VI-A contingent so far reporting expected attendance at the reunion comprises **George Shutter**, **Phil Coffin**, **Dug Jackson**, **Rufe Shaw**, **Ralph Wetsten** and their wives. . . . **Lyall L. Stuart**, R.F.D. 1, Garrison, N. Y. 10524, also says he'll be on hand for both the reunion and Alumni Day 1966.

If you have not received the reunion mailings to date, it should be explained that the Alumni Office sent them to those who are officially listed as '21. Due to the confusion of those war and post-war years, many who were graduated with '21 are now listed in other classes, as permitted by the Alumni Association; similarly, many who spent years with '21 were graduated with other classes and did not request a change in their numerals back to '21. We have personally mailed invitations to those not listed with '21 whom we believed to be interested in attending our reunion. **Al Wason**, '20, a regular attender in the past, is the first of this group to reply. He says he and Mrs. Wason will be present for all of the June events and adds: "Trust we will have a large turnout, as the Griswold is a perfect location for a reunion." If you would like to have the mailings and haven't received them so far, please write to **Cac Clarke** at the address listed at the end of these notes. Through the excellence of the Alumni Register, very few letters have been returned and we have obtained new ones for a few that have come back. Can you supply the current addresses for the following, who are no longer at the addresses given: **David J. Baker**, 43 Strathmore Rd., Brighton 35, Mass.; **James Ford**, Ford Builders, 213 Calle Miramar, Redondo Beach, Calif.; **Edward W. Jackson**, 18750 S. Vermont Ave., Gardena,

Calif.; **Hugh F. Peirson**, W. S. Tyler Co., 3540 Wilshire Blvd., Los Angeles 5, Calif.? Reunion and Alumni Day events are fast taking shape and we don't want anyone to miss the chance to enjoy them. . . . **Sumner** and **Betty Hayward** spent a most enjoyable day with Maxine and your Secretary here in Brielle. One of the finest features of retirement is the opportunity it affords for unhurried visits, with ample time for covering a lot of ground, both literally and figuratively. The active Haywards always have at least one unusual occurrence to enliven every meeting. This time, it was a description of one of Betty's pen-pals who aids in her extensive collection of picture post cards—especially of libraries, as one would expect of a Simmons graduate in library science. Turns out this particular gentleman, known to her as "Uncle Joe" or "Tut," is none other than our good classmate, **Horace B. Tuttle**, Park Ave., Bloomfield, Conn. 06002, of the Johnson Asbestos Corporation! Tut, in turn, says he keeps up with the Haywards' doings via these notes in *The Review* and that he'll make it a point to attend our reunion and Alumni Day to see them and the rest of his friends. . . . The latching string is always out at Brielle for members of '21; if you'll drop your Secretary a note in advance, we'll send you detailed instructions for travel by air, rail, road or boat. We missed seeing **William L. Knoepke** and his wife on the occasion of their visit to her niece, who lives in Brielle. Bill, now retired and living at 3032 N.E. 15th Terrace, Ft. Lauderdale, Fla. 33308, says they will surely drop in next time.

Always at this time of the year, Maxine and your Secretary enjoy so tremendously your warm greetings and kind expressions of cheer and good wishes. Especially in retirement, our friends—and particularly those dear to us through our association with M.I.T.—grow to enormous importance and we value more than ever their friendship and their remembrances at the time when all families draw close together. There are many welcome messages of interest which we'll defer for subsequent issues; we both thank you for thinking of us and for saying such nice things. We gratefully acknowledge the thoughtfulness of **Elizabeth** and **John Barriger**, **Ednah Blanchard**, **Mary** and **Buck Buckner**, **Ethel Burckett**, **Marion** and **George Chutter**, **Mary Louise** and **Rich Clark**, **Edna** and **Phil Coffin**, **Dorrit** and **Larry Conant**, **Colonel** and **Mrs. Carlo N. De Gennaro** '53, **Sarita** and **Gonzalo C. Docal** '44, **Maida** and **Ed Dubé**, **Helen** and **Ed Farrand**, **Martha** and **Gef Farmer** '22, **Catharine** and **Harry Field**, **Betty** and **Morris Goodhart** '35, **Father Everett Harman**, **Alex** and **Munnie Hawes**, **Betty** and **Sumner Hayward**, **Betty** and **Dug Jackson**, **Ruth** and **Irv Jakobson**, **Mel Jenney**, **Mildred** and **Herb Kaufmann**, **Marge** and **Jack Kendall**, **Laurie** and **Chick Kurth**, **Howard LeFevre**, **Emma** and **Al Lloyd**, **Conchita Lobdell**, **Howard MacMillin**, **Milicent** and **Joe Maxfield** '10, **Helen** and **Bob Miller**, **Florence Moore**, **Helen Mosher**, **Kay** and **Phil Nelles**, **Muriel** and **George Owens**, **Graciela** and **Helier Rodriguez**, **Helen** and **Ray St. Laurent**, **Anne** and **George Schnitzler**, **Don**

**Severance** '38, **Madeline** and **Ralph Shaw**, **Rigi** and **Saul Silverstein**, **Edith** and **Harry Thomas** '25, **Volta Torrey**, **Helen** and **Lem Tremaine** '23, **Louise** and **Carlton Tucker** '18, **Ruth** and **Ralph Wetsten**, **India** and **Dave Woodbury**.

**Lawrence W. Conant** directed the planning for the continuing education seminar series of the M.I.T. Club of Washington, D.C., which culminated in an all-day Saturday session last month, with Technology's provost and Nobel laureate, **Dr. Charles Townes**, as the major speaker. **Larry** retired from the Federal Aviation Agency at the end of last year and is devoting much time to cybernetics, professionally, in a new association with the Center for Technology and Administration of the American University, Washington, D.C. It's grand to hear that he and **Dorrit** will be with all of us at the reunion and Alumni Day. . . . Another reunion attendee, long missed, is **Alfred H. Fletcher**, Director of the Division of Environmental Health of the State of New Jersey. **Al** is much in the news as a member of the N.J. Boat Regulation Committee, which is considering new regulations to reduce water pollution caused by the state's 200,000 pleasure boats. He makes his home at 22 E. Welling Ave., Pennington, N.J. 08534. . . . In a letter to the editor of "Life Magazine," **S. Paul Johnston**, Director of the National Air Museum of the Smithsonian Institution, Washington, D.C., alludes to a Wright brothers glider in which **Orville Wright** set a 1911 soaring record of almost 10 minutes, which was not broken until 1921. . . . The committee for the 18th annual M.I.T. Fiesta in Mexico, on which **Manuel S. Vallarta** and **Viviano L. Valdés** are active, has announced that **President** and **Mrs. Jay Stratton** '23 and **Don** and **Mrs. Severance** '38 will be the honored guests at the events which take place from March 10 to 12 this year. . . . Maxine and your Secretary are happy to welcome granddaughter **Margaret Belle Clarke**, who arrived to **Alfred** and **Marie** in **Montclair, N.J.**, on the twelfth day of Christmas, January 6, 1966, her paternal great-grandfather's birthday. At this writing, all is well and **Mac** is still up on **Cloud No. 9**. . . . To **Volta W. Torrey**, retiring editor and publisher of the *Review*, who has transferred his literary and managerial abilities to N.A.S.A., we extend best wishes for continued outstanding success and new laurels for his future accomplishments. We have enjoyed working with him and have greatly appreciated his skilful improvements in the format and contents of the magazine. We shall miss our customary chat on Alumni Day. . . . We wish to acknowledge and to thank **Mrs. Richard E. Speagle**, of Princeton, N.J., daughter of the late **Colonel Albert L. Edson**, for her letter about her father's death. She says, in part: "His health had been failing for some time and, last July, I had to move him, together with Mother, who was partially paralyzed by a stroke in '58, to a nursing home in **Neshanic, N.J.** He spoke of you and asked me where **Brielle** was. I think he had hoped to pay you a visit if his health improved." We have ex-

tended to Mrs. Speagle and the family heartfelt condolence from the Class.

With profound sorrow, we record the passing of four members of the Class of '21 and extend to their dear ones the sincerest sympathy of the entire Class. . . . **James Wilbur McNaul**, Professor of Machine Design and Industrial Engineering in the Department of Mechanical Engineering, University of Wisconsin, Madison, Wis., died on December 26, 1964, only a few months after his retirement in June '64, after 41 consecutive years of service to the university. Born on November 22, 1893, at Butte, Mont., he had served an apprenticeship as a machinist in the shops of the Anaconda Copper Mining Company while attending high school and business college. He also studied at the Montana State School of Mines before entering Technology with us in 1917. At the Institute, he was a member of the Mechanical Engineering Society and the Aero Society and served as machinist on cranes at the Watertown Arsenal. During World War I, he was a private in the Engineering Reserve Corps and the S.A.T.C. at M.I.T. He was graduated with us in Course II and joined the faculty of the University of Nebraska, where, for two years, he taught applied mechanics and machine design. He went to the University of Wisconsin in 1923, where he also served as director of the U.S. Army Ordnance Precision Gage Laboratory and, during World War II, as coordinator for the Air Force Machinist Training Program. Additionally, he served as consultant to Wisconsin industries in the design of production machinery and industrial plants, for which he was a recognized authority. His many other interests included bowling, the study of early frontier and Indian life, camping and fishing in the mountains of Montana. He was a registered professional engineer, a member of the National Society of Professional Engineers, the International Association of Machinists, Madison Technical Club, Lambda Chi Alpha and the honorary mechanical engineering fraternity, Pi Tau Sigma. He is survived by his wife, the former Elsie Pascoe of Cumberland, England, who resides at 2617 Van Hise, Madison, Wis.; and a son, James P., who has been engaged in graduate study at Stanford under a Sloan Fellowship. We are indebted to Professor Bruce M. Davidson, Associate Dean of the College of Engineering, University of Wisconsin, for his aid in preparing these notes.

**Richard Lee** of 4748 25th St., San Francisco, Calif., died on August 29, 1965. Born on February 20, 1900, at San Francisco, he prepared for the Institute at the Potter School in San Francisco. At Technology, Dick was the vice-president of the Mining Engineering Society, a member of the crew in our sophomore year and a member of the swimming team. He was graduated with us in the mining and metallurgy option of Course III and joined the Premier Gold Mining Company, Ltd., Premier, B.C., Canada. In 1930, he was the chief engineer of the Northern Peru Mining and Smelting Co., Trujillo, Peru. He later was associated with the engineering staff of the Home-

stake Mining Company, Lead, S.D., and the Bonanza Rosario Mines, Puerto Cabezas, Nicaragua. In 1946, he became rolling mill inspector for the Bethlehem Pacific Coast Steel Corporation in South San Francisco, now the South San Francisco plant of Bethlehem Steel, where he continued as a metallurgist until his death. He is survived by his wife and three children, a son, John, and two daughters, Sally and Isabel, all of whom attended the City College of San Francisco.

**Ernest Pauli** died on October 26, 1965. He was a retired partner of the firm he founded, Ernest H. Pauli Associates, manufacturers representatives for mechanical power transmission equipment of 705 Park Ave., Plainfield, N.J. 07060. Ernie was born in Hartford, Conn., on May 15, 1895, and prepared for M.I.T. at New York Preparatory School and Cooper Union, joining us in the junior year. At the Institute, he was a member of Corporation XV and the founder of the Richard C. MacLaurin Lodge, F. and A.M., at Technology. During World War I, he was a private in the Chemical Warfare Service. He was graduated with us in Course XV and joined the De La Vergne Machine Co., New York City, as an estimating engineer. He was later associated with the Cooling and Air Conditioning Corporation and the Universal Gear Corporation, both in New York City, before starting his own firm in 1940. He had been a member of Rotary in New York. His wife was the late Margaret Stewart Pauli. He is survived by a son, Ernest H. Pauli, a 1945 graduate of Stevens, who heads the family firm, and by four grandchildren. We are indebted to Mr. Ernest H. Pauli for aid in preparing these notes.

**Norman Frisbie Patton**, R.D. 2, Overbrook Rd., Dallas, Pa. 18612, died on December 26, 1965. Pat was born in Chicago on December 24, 1899, and prepared for the Institute at Trinity School, New York City. Ours was the pleasure and privilege of knowing him well ever since we sat at adjacent drafting tables as freshmen in 1917 and also entered competition for jobs on "The Tech." He was a member of Corporation XV, the Radio Society and its secretary in our sophomore year, the Electrical Engineering Society, the advertising manager of Voo Doo and Phi Sigma Kappa. During World War I, he was a private in the S.A.T.C. at M.I.T. He had been affiliated with the National City Bank of New York and the brokerage firm of Peat, Marwick and Mitchell before joining the Anthracite Institute in 1931. Its treasurer and statistician, he was also editor of its bulletin and represented the industry in both Washington and Harrisburg as an authority on fuels. In 1963, he joined the staff of Northeast Pennsylvania Blue Cross. He was active in the Shavertown Methodist Church as past president of the board of trustees, former chairman of the finance committee, and chairman of the ushers committee. He was an honorary member of the Wyoming Valley Traffic Club. He was also a member of the Westmoreland Club, the George M. Dallas Lodge 531, F. and A.M., Caldwell Consistory, where he took an active part in

degree work, and Irem Shrine Temple. He is survived by his wife, the former Elizabeth Thornberry, once president of the League of Women Voters in Wilkes-Barre and also for the state of Pennsylvania, a prominent leader in other fields and a notable in her own right; and a cousin, Oliver Crothers, Phelps, N.Y. An editorial in the Wilkes-Barre paper lauds Norm as a "man of distinction, an asset to his country, widely known in the community and the Commonwealth, who devoted more than half his life to the welfare of the area." A note from Azel W. Mack, Secretary of the Class of 1915, sends his regrets on "the sad passing of an old friend, Norman Patton." Norm was particularly proud of his M.I.T. associations and we were most pleased that he and Betty attended the '61 reunion in Plymouth. We are indebted to Betty Patton and to Betty and Sumner Hayward for aid in preparing these notes.

Many thanks if you have returned the questionnaire to your Secretary; if you haven't, please do so now, whether or not you will attend the Reunion and Alumni Day. We hope your plans are well under way to include the pleasure of both events—you and your wife are assured a good time at Groton and at Cambridge—so come on back with '21—we all want to see you!—**Carole A. Clarke**, Secretary, 608 Union Lane, Brielle, N. J. 08730; **Edwin T. Steffian**, Assistant Secretary, c/o Edwin T. Steffian and Associates, Inc., 19 Temple Place, Boston, Mass. 02111; **Melvin R. Jenney**, Reunion Committee, 24 School Street, Boston, Mass. 02108.

## '22

You will all have to come to western New York to believe your Secretary when he reports almost no winter here and many days of warm weather through the first week of the new year. A skiing report just received from Kissing Bridge laments the same situation of last year. It seems nonsensical to leave, but our foursome will be at Augusta National playing golf the middle of January—with hopes for as good weather as we have here. Australia in February may be a little warmer. One of our nicest Christmas presents was a completely unsolicited compliment on the Class Notes from **Marion S. Dimmock** on his Christmas card from New Britain, Conn. Dimmy had previously sent a booklet to us to which most Course IV Architects contributed. The interesting brochure consists of separate pages and drawings of each member of the class illustrating how he would like to be remembered, the ambitions in life and the probabilities of future years. Does anyone wish to borrow it? . . . It has been nice to read **Parke Appel's** Reunion notes for June 8-12, 1967, and take note of the many who plan to attend.

Catherine and **Mac McCurdy** included a note on the back of their colorful Christmas card assuring us of their attendance. They were pictured at the El Dorado Country Club in Palm Desert, Calif. . . . Major General **Chang Tsu**

**Chien** (ret.), who is currently vice-chairman of Nationalist China's foreign exchange and trade control commission has been in the United States to help close the Chinese government's pavilion at the World's Fair. General Chien retired from the Chinese Air Force in 1949 after four years as head of research and weapons development and previously as head of the Military College for aircraft maintenance. The sympathy of our class is extended to the families of **Paul Winsor, Jr.**, of Cohasset and **Claus Molbach-Thlefsen** of Oslo, Norway.

Among the new addresses received are those of **Howard Simons**, Vancouver, B. C.; **Edward Fales**, Meredith, N. H.; **Charles Breitbeil**, Louisville, Ky.; **Bennett Myers**, Dallas, Texas; **L. Robert Loss**, Phillipsburg, N. J.; **Hector A. Lopez**, Pittsburgh, Pa.; **Roger D. Carver**, Toccoa, Ga.; **Garrett H. Barnes, Jr.**, Akron, Ohio.

And now with these few words (no more have been received) your Secretary sadly but firmly picks up his golf bag and trudges wearily southward. See you next month with a full report.—**Whitworth Ferguson**, Secretary, 333 Ellicott St., Buffalo, N. Y.; **Oscar Horovitz**, Assistant Secretary, 33 Island St., Boston 19, Mass.

## '23

Classmates interested in attending the annual M.I.T. Fiesta in Mexico, March 10-12, 1966, should contact Mr. Armando Santacruz B., Fiesta Chairman, M.I.T. Club of Mexico City, Reforma 116-804, Mexico 6, D.F., Mexico. Dr. and Mrs. **Julius A. Stratton** and Mr. and Mrs. Donald Severance are to attend. . . . **Horatio Bond** reports that **Robert V. Burns** wrote to him in November that he and his wife Lillian were then on their way to England after spending three and one half years in Bangkok, Thailand, building four projects for the Thai Government. They left Thailand October 25 by boat, taking their car with them. The boat made stops at Singapore, Penang, and Port Swettenham in Malaya, also Aden and Suez. His letter was posted at Lisbon after which they expected a stop at Hamburg and later London, where they planned to arrive early in December. He said that they plan to see part of the British Isles and the continent before returning to their home in Coral Gables, Fla., next fall. They expected to spend Christmas and New Year's in County Wicklow, Ireland. Bobby has spent more than 25 years in the tropics. He was for a long time director of the Government Hydrographic Laboratory in Ceylon, and in recent years has been building earth dams in such places as Haiti, Asia Minor, and other relatively tropical locations to the extent that his doctors tell him that they must get back to cold weather. . . . The Berkshire Eagle of Pittsfield, Mass., of November 20 contains an article entitled "Hard-Driving, Imperious Entrepreneur." This article states that **Robert Chapman Sprague** has been named "Man of the Year" by the New England Council for Economic Development. The article

gives information on Mr. Sprague's background and the development of the Sprague Electric Company. It states that Sprague, who is founder, chairman of the board and chief executive officer of the Sprague Electric Company, which has its headquarters in North Adams, is a descendant of the Ralph Sprague who came ashore from the ship *Lion's Whelp* to help settle Salem in 1628. On his mother's side he is descended from Robert Chapman, who helped settle the tiny Connecticut seaport of Saybrook in 1635. Sprague himself is the son of two Connecticut Yankees—the late Frank J. Sprague, famous electrical inventor, co-worker with Thomas A. Edison and "father of electric traction," and of the former Harriet Chapman, who, in her 89th year is enjoying life in Williamstown. Mr. Sprague is married to the former Florence Van Zelm of New Rochelle, N.Y. They have two children, Robert C. Sprague, Jr., and Dr. John L. Sprague.

Notice has been received that Dr. **Nathaniel H. Frank**, Professor of Physics at M.I.T., was a speaker at the 20th Annual Council on Hotel, Restaurant, and Institutional Education, held at the Park Shelton Hotel in Detroit, December 27-29, 1965. The Council is made up of the 92 schools that now offer specialized instruction for the food and lodging industries. . . . An unidentified and undated clipping has been received from which the following excerpts have been taken under the title of "Yankee Power Man:" **Harland Clement Forbes**, a slim, taciturn New Hampshire man, is a veteran of 41 years in the power business here, as well as of three major electrical failures in the last 29 years. In January, 1936, when he was system engineer of Consolidated Edison, a four-hour power failure struck New York late one afternoon, and darkened the city north of 59th Street, through Westchester and the Bronx. Five days later, Mr. Forbes delivered a critique on: "January 15, 1936, Disturbance." In measured tones, he told the annual convention of the American Institute of Electrical Engineers that since the cause was unknown, "a similar breakdown, presumably, could occur in a big city at almost any time." His reluctant prophecy came true in June, 1961, when five square miles of the city were blacked out by another failure. Both of these breakdowns were eclipsed by Tuesday's power collapse, extending from New York to Canada. He received a B.S. at the University of New Hampshire in 1921. In 1923 he earned an M.S. at M.I.T., where he had been an instructor in electrical engineering. He gave up teaching to join the design and testing staff of the central office telephone apparatus of the Western Electric Company here. Then in 1924 he joined the New York Edison Company and remained when it became Consolidated Edison. Four years later he was named research engineer, and in 1932 he became system engineer. He rose from assistant vice-president to vice-president to executive vice-president, between 1949 and 1955. Mr. Forbes served as president of Consolidated Edison for the next two years and in 1957 was made board chairman, a post he continues to hold. In 1928

he married the former **Frances I. Ransom**. They have two sons, **Howard B.** and **Burton A.**, and five grandchildren. The executive and his wife live in a five-bedroom, red brick house on spacious grounds at 71 Bellows Lane, Manhasset, L.I. Mr. Forbes is a trustee of several corporations, a member of the Commerce and Industry Association, a fellow of the American Institute of Electrical Engineering and a member of the Society of Gas Lighting.

On December 2, 1965, the National Association of Manufacturers presented its "Modern Pioneers in Creative Industry" award to **Herman Alexander Bruson** for his outstanding scientific contribution to modern industry. The honors were awarded at the NAM's 70th Annual Congress of American Industry in the Waldorf Astoria. Mr. Bruson is vice-president, Organics Division, Olin Mathieson Chemical Company. A veritable walking organic chemistry encyclopedia whose achievements lie in the growth of synthetic organic chemistry, he is the holder of over 300 patents. His work represents major contributions to developments in plasticizers, synthetic detergents, bactericides, additives for lubricating oils, and oil-soluble resins for use in paints and varnishes. His research leading to development of new and better additives for lubricating oils contributed greatly to the mobility of our armed forces during World War II and has revolutionized the entire lubricating oil business in the post-war era.

The New York Times of November 22 reported that Dr. **Julius A. Stratton**, M.I.T.'s president, had the day before received from The Jewish Theological Seminary of America the honorary degree of Doctor of Humane Letters. The degree was conferred at an academic convocation at Temple Mishkan Tefila in Newton, Mass. A dinner followed at the Sheraton-Plaza Hotel in Boston. . . . **David Muirhead**, chairman and president of Emhart Corporation, announced October 26 the appointment of **Archibald Williams** to the newly created position of vice-president, Industrial Engineering. Mr. Williams will head the Emhart team concerned with planning and constructing the new manufacturing facility for Emhart's New Britain hardware operations. He joined the American Hardware Corporation (now Emhart Corporation) in 1946 as an industrial engineer. He was appointed vice-president in charge of Industrial Relations in 1951. From 1955 to 1961 he served as a member of the Connecticut State Board of Mediation and Arbitration. He resides at Bristol, Conn.

**Herbert L. Hayden** writes from Central America, on January 2, "Here we are in Guatemala City after making the circuit of South America. This has been a wonderful trip and we have seen several M.I.T. people since writing to you some time ago. In Santiago, Chile, we had a fine reunion with one of my fraternity brothers (Theta Xi), **Horacio "Chile" Serrano**. Chile was the class of 1924 and I had not seen him since our school days. He has five beautiful daughters and a charming wife. We had lunch at their home and a very pleasant time. With us also was **Russell Ambach's** (Class of

1924) son who is with the Embassy in Santiago. In Panama we had another fine visit with our classmate **Eduardo Icaza**. We had dinner at the Union Club with him and his fine family one evening and entertained Eduardo and his wife at our hotel one evening. Every Sunday evening he has his family to dinner, which is a fine custom. He has three daughters and one son and they are all well married. In San Jose we had a fine reunion with another of my fraternity brothers and a member of the class of 1921, **A. Teodorico Quiros**. He is an architect, a teacher of art in the University and a fine painter. We saw several of his works around the city, a couple of churches, a school, etc. He has also exhibited his paintings in Rome, Mexico City and Sao Paulo. So you see, Forrest, this trip to South and Central America has enabled us to renew some fine fellowships started years ago at M.I.T."

**Howard F. Russell** quotes from a letter received from a friend at Las Cruces, N.M., on January 10: "... **Alfred M. Perkins** passed away on January 13, 1965, in a local hospital from cancer, and was buried with full military honors in the Fort Bliss National Cemetery, El Paso, Texas." Howard goes on to say that if his memory is correct Perkins was a rating engineer for the New England Fire Insurance Rating Organization in Boston for a number of years, then he went West and was with the Manhattan project of the AEC, and then with the Missile Range at White Sands. After retiring he took up wood carving as a hobby and really turned out some fine pieces. ... Howard then reports that the virus bugs caught up with him after his hernia operation last September. He says he is all right now, flies to Florida from Boston on January 12, and plans to spend as much time out in the sunshine as possible. ... Word has been received of the death of **John E. Vereker** on May 1, 1964, but no details are available except that his old address was Glen Ellyn, Calif.

The Alumni Association has advised of the following changes of addresses: **Kyle J. Lutz**, 145 Jackson Way, Pleasant Hill, Calif. 94523; **Harold L. Townend**, 143 Ruskin Road, Buffalo, N.Y. 14226; **Gerald M. Frank**, 5559 Bellerock Place, Pittsburgh, Pa. 15217; **Walter E. Gladding**, E. I. duPont de Nemours Company, P.O. Box 800, Kinston, N.C.; **Cecil H. Green**, Geophysical Inc., P.O. Box 35084, Airlawn Station, Dallas, Texas 75235; **Louis A. Metz**, 1296 Hackberry Lane, Winnetka, Ill. 60093.—**Forrest F. Lange**, Secretary, 1196 Woodbury Avenue, Portsmouth, N.H. 03801; **Bertrand A. McKittrick**, Assistant Secretary, 78 Fletcher St., Lowell, Mass. 10852.

# '24

Remember the old estimate that the basic chemicals in your body were worth only about 98 cents? Well, times have changed. One of your classmates, **Charles A. Thomas**, Monsanto's board chairman has upped that figure appreciably, all the

way up to \$800 in fact. The reason: a major market has developed for enzymes and nucleic acids. Hope that makes you feel more worthwhile. ... From **Gordon Harvey**, a bit of family news. Their daughter Roberta has given up teaching in favor of being a housewife and mother with a daughter now 15 months old. Their other daughter, Patricia, is a senior stenographer with the N.Y. State Department of Public Works in Rochester. Gordon, of course, is still boss of the Genesee State Park Commission.

**Lee Franke** is a Consulting Engineer in Rochester, but fortunately he has a good partner and when the winter winds start whistling in off the lake the Frankses pack up in a hurry and go to warmer climes. Last winter it was Florida and Arizona. This year it's Hawaii. They expect to be back in April sometime, but Lee says he enjoys these vacations so much he doesn't want to work any more. ... **Dr. Frederick Terman** retired last August as Vice-president and Provost at Stanford. However, he's still a part time consultant to Stanford's president; is president of Southern Methodist's new Foundation for Science and Engineering; is consultant on an educational program for several Eastern companies; and is about to make a four-week trip to Russia for the U. S. Office of Education. Obviously Dr. Terman is not the sedentary type.

Connecticut does not have a panic button to prevent another "Black Tuesday," and will not have, according to Hartford Electric's Vice-president **Elbert C. Brown**. "If you have such a switch", says Bump, "the danger is in having it go on when you don't want it on." He said further that even with a button to disconnect from the interconnecting grid system, "we would still have to know what was causing the trouble before we pushed the button, and on November 9 it took us 14 minutes before we were sure." ... The **Videt-Yontrakichs** are still in this country. In spite of the difficulty of living here on a Thai government pension, they want their children to have a U. S. education. "We have to make a lot of adjustments and live very economically," Videt was in Boston last fall to make a T.V. scene of the Royal Father of the Present King for USIA, and stayed with the Ambachs while he was here. ... **Phil Bates** has an interesting avocation that hasn't previously come to our attention. He edits the Journal of Agricultural and Food Chemistry for the American Chemical Society. As usual, he and Eleanor got in their share of travelling last year, starting with Hawaii in March and ending with New Hampshire in the fall.

Another retiree is **Elliott B. Davidson**. A construction engineer for the Air Force, he has been in Japan, Korea, and other Pacific spots in recent years. Now he has changed oceans, and last October retired to Florida.

Sorry to have to record another death, that of **Robert H. Lawson** in Pawtucket, R. I., on December 17. No details at the moment.—**Henry B. Kane**, Secretary, M.I.T. Room E19-439, Cambridge, Mass. 02139.

# '25

A recent note from **Tony Lauria** brought with it a complete summary of the vacation trip which he took last July with his wife and son. Tony is one of our classmates who has visited many parts of the world and has many more on his list for future visits. Last summer he covered Ireland, from one end of the country to the other; and followed that with visits to many spots in both England and Scotland. He writes that he expects to retire next July; but even before that time, he hopes to take a spring trip through the Caribbean. Following retirement a boat trip will take him to Brazil where he has many friends, since he worked there for a number of years. He feels that traveling by boat will be preferable, since he will not be in any hurry to get there or to get home again. His last trip to Brazil was in 1955 and there are still many things that he did not have a chance to see. The following year, he plans on seeing Japan, the Philippines, various Pacific Islands, Australia, and New Zealand; so it appears that you may run into Tony almost anywhere in the world.

Christmas notes brought information from two Course III classmates: **George Blonsky** is still headquartered in New York City and keeping busy with construction and heavy equipment programs. **Irving Symonds** is enjoying semi-retirement with his headquarters in Brownsville, Texas, with continuing trips into Mexico about one week each month.

Belated news has come in of the death of **Malcolm Davis** on September 30, 1965, at Oyster Bay, N. Y. Mal had been in failing health for some time; and the sympathy of the entire class is extended to his family.—**F. L. Foster**, Secretary, Room E19-702, M.I.T., Cambridge, Mass. 02139.

# '26

So far this weekend we are snowed in but we plan to run out to Pigeon Cove as soon as the roads are cleared. Your Secretary spent last evening going over the class notes folder of clippings, Christmas cards, letters, etc. With this issue and two more left before the most important of all '26 reunions it seems more pressing to talk about our get-together in June than to report address changes, promotions, etc. I always feel frustrated at reunions because the time is so short. A weekend out of 40 years is but a split second. I want to see everyone and hear about their plans and what they have been up to for all these years but it's impossible and I usually end up asking you to write me about it later. I recall even handing out a form for you to do this at one reunion. If there is any hope of having a relaxing moment with each of you I'll doubtless resort to this once again—but I'll mail it to you when you get back home—or maybe before you come!

There is one news item that will be of interest to everyone. It was our class

president **Dave Shepard's** Christmas card, added by his wife Kay, "Dear 'G. W.' (Dave is the only one in the world that calls me 'G. W.' except Kay) Perhaps you have not heard that David is to retire as of Feb. 1 (2 years ahead of time). He will be as busy as ever as he has acquired many extra-curricular jobs in which he is most interested. (Probably no news to you.) Anyway we are both pleased. Kay S." The news also came via **Austin Kelly** because the major "extra-curricular job" taken on by Dave is to assist Austin in pushing our class gift to its successful goal by reunion time. This makes us doubly happy—first that Dave can retire ahead of schedule and secondly that he is to devote his time for the next few months to the project that is so important to all of us. We are looking forward to a Boston visit by Dave on this mission. As we approached the end of '65 the half way mark had been reached. The end of the year brought many more important additions and we hope it will bring us up to the 2/3 mark. (We are writing on January 9.) Even if we are that far along there remains a great deal for Austin Kelly with helpers like **Dave Shepard**, **Ted Mangelsdorf**, **Elton Staples**, and let's say all of you. By the time one gets to our stage in life an objective such as we have set takes on a significance that to me at least is quite apart from fund raising as we normally think of it, which is usually important but impersonal. In the past couple of years two of our classmates have died leaving very large bequests to M.I.T. (not

## 40th Reunion

counted in class gift of course because our gift wasn't conceived when their wills were written). It would be interesting to know what motivated them to do this, for it demonstrates a deep feeling for M.I.T. It could be that they recognized that much of their success in life was due to what they obtained from M.I.T. Or perhaps they felt that a dynamic institution where students learn to use that little gray substance in their heads is a pretty good thing to perpetuate. Perhaps they felt that basic knowledge such as evolves from M.I.T. is really the source of all scientific progress whether it be in physics, chemistry, medicine or landing on the moon. Perhaps they also knew that M.I.T. has since our time reenforced its programs heavily with the humanities. Perhaps they just knew that M.I.T. was always the best place of its kind and continues to be way out front. Conjecture gets us nowhere but we do know that a strong feeling for M.I.T. of some kind motivated their thinking. It is this same motivation that is making our class objective a success, an objective that will project way into the future. Again your Secretary has deviated from his role but time is so short and the objective so important I hope you will forgive the rambling.

There remains just time to look at a few address slips that came through regularly from the Alumni Association. Sometimes these are confirmations of old addresses, sometimes they report deaths and often new addresses. They always leave

your secretary wondering because there is no explanation—has the classmate retired, has he a new job, how did he die, what does he do out there? I'm going to let you wonder with me as I go through a few of these address slips. Here we go: **Samuel W. J. Welch**, same address, Boulder, Colo. . . . **Charles R. Greene** of Canaan, N. H., changes class affiliation from '29 to '26. . . . **George S. Killam** moves to Chatham, Mass. (we know he retired). . . . **Capt. Clifton B. McFarland**, Quarters "Q" North Island, San Diego, Calif. . . . **Jim Carey**, East Lansdowne, Pa. (we haven't seen Jim since our fifth). . . . **Joel Tompkins**, Pittsburgh, Pa. (we read of the death of Joel's brother in the Gloucester paper a few months ago). . . . **Lt. Gen. Shih Ming Chu** died in Tokyo. . . . **John A. Walquist** of Wilton, Conn., died last July. There are many more but this sampling gives you an idea of the kind of lead.

We did make it out to Pigeon Cove for a few hours. The sun had come out and the sea was wild and rumbling over the rocks below. As far as you could see up and down the coast the surf was breaking against the rocks and spraying high into the air. It was our first experience with snow on our new long driveway but the high winds with some help from a Jeep plow cleared it nicely. A five foot drift blocked the Fo'castle doorway but a little shoveling took care of that. As a rule snow accumulates less by the sea. The high winds seem to blow it somewhere and so long as it is not into my driveway I'll be happy. These high winds also whip up the sea and give it the life and sparkle such as we witnessed this afternoon. It's always different and always interesting. I haven't figured out what I'm going to order for your visit in June but what we do not want is fog. Even fog can be interesting if you know what's out there when it's clear. Let's forget that possibility—but do start planning for the reunion trip, it won't be long until April. Cheerio.—**George W. Smith**, E. I. DuPont de Nemours & Co., Inc., 140 Federal St., Boston, Mass.

# '27

"Yes, I retired some time ago," says **Tom Russell** in a letter from 1111 Gallean Drive, Naples, Fla. "But sometimes I think that I should go back to work if this is retirement. I sold my contracting quarry and asphalt pit interests in the Virgin Islands but still have a Small Business Investment Company in Charlotte Amalie that requires periodic visits to the Islands. Meanwhile, we spend most of our time here in Naples where I started a leasing company—just to keep busy. That was a mistake—when I asked for a glass of water, I didn't expect to be drowned!" After that, Tom enclosed a good check for the Class Gift and a promise to do the same in 1966 and 1967. . . . Another of my nudging letters brought a reply from **Eric Hofman**. "Yes, Joe" he wrote from Jaime 1, 56,

La Cabaneta, Mallorca, Spain, "the address above is permanent (or for some time). It's a nice old Mallorcan stone house—500 feet up and overlooking all of Palma, a big (150,000) civilized city. Mallorca is a charming island. 5000-foot mountains. 1000-foot cliffs to the sea. Coves and beaches, rich flat cultivated farm land. 8 million almond trees, and a nice year-round climate. Today it's sunny, clear, warm, light breeze." It does sound great, doesn't it? We hope you continue to enjoy it, Eric and Tibby (who painted an excellent picture of the house for the Christmas card).

Meanwhile somebody has to run the railroad. **Russell Talbot** who has been with the Pennsylvania Railroad since 1929, has been appointed assistant vice-president, marketing. He will supervise all research and pricing activities. His career has provided him with wide experience in traffic development, market research, pricing, and he is a specialist in the piggy-back field.

The James H. McGraw Award for Electrical Men was presented at a November meeting of the Electric League of New York to **Wesley Meytrott**. The citation points out that this "Medal for Cooperation" was awarded to Wes due to his having observed in 1953 that the growing loads presented by the accelerated sales of new electrical appliances and equipment required a parallel enhancement of the wiring systems in existing and future homes. He initiated and pursued a giant wiring promotion program which has been continued down to the present. The results are described as "phenomonal." Wes continues as vice-president—sales of Con Edison of New York. Our heartiest congratulations. . . . In the January notes, **Carl Davies'** letter suggested that the class insurance policies be given now to the Class Gift or to be given when "Gabriel calls." Ken Brock of the Alumni Association has since recorded with Carl that the Institute really prefers a gift now, if it can be arranged. Carl has decided to retain his policy and give an equivalent donation. Hopefully, this information may be of use to others.

**Charlie Smith's** Christmas card says he is still at the command-post of The Bartram Company in Cincinnati. His air-blowing equipment is shipped all over the world and this spring he is going to Europe to show at the Hanover Fair. Charlie says, too, that he misses not being near the salt water and lobsters of Connecticut, where he hails from.

We are indebted to **Charles H. Chatfield** of the class of 1914 for sending us word of the death on August 6, 1965, of **A. Lewis MacClain**, who after graduating from the University of Washington, received a master's degree in aeronautical engineering at M.I.T. He was the first test pilot employed by Pratt & Whitney Aircraft in Hartford, became chief test pilot in 1942. In 1944 he transferred to installation engineering and he retired in 1959. His wife still resides at their home at 79 Cedar Ridge Drive, Glastonbury, Conn., and the class' condolences are extended to her. . . . I would certainly like to hear from **William F. Bingham** who has moved from Portland, Ore., to

# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	1/31/65			1/31/66		
	No. Active	No. Contribs	%	No. Contribs	%	
'24	495	141	29	162	33	
'25	484	122	26	130	27	
'26	554	162	29	172	31	
'27	491	144	29	143	29	
'28	478	170	36	157	33	
'29	455	116	27	127	28	
'30	471	115	24	100	21	
'31	509	114	22	127	25	
'32	563	141	25	153	28	
'33	551	134	24	152	28	

941 Schweitzer Drive, Wichita, Kansas 67211; only last year, Bill moved from Omaha to Portland. Must be something newsworthy there. Other new addresses (but not involving long moves) are: **Donald A. Sherman**, Mt. Harmony Rd., Bernardsville, N.J. 07924; **Henry C. Myers**, 189 Montebello St., Chula Vista, Calif. 92010; **Percy A. Lovett**, 6445 Waegwoltic Ave., Halifax, Nova Scotia; **Chas. F. Sweet**, Box 56, RD #1, Milford, N.J. 08848; **Carl H. Peterson**, 4 Epping St., E. Weymouth, Mass. 02189; **G. Albro Hall**, Worthington, Ohio 43085. . . . Many thanks to all of you who sent Christmas cards. The Alumni Association sent me H. W. Fowler's "Dictionary of Modern English Usage" (Oxford Press). I understand that one went to each class secretary, so I assume that nothing personal was involved. Incidentally, it is well worth owning—**J. S. Harris**, Masons Islands, Mystic, Conn. 06355

## 28

Class notes hit the jackpot this month in the form of long missives from Florence Joep, Jim Donovan, Charlie Worthen, Fritz Rutherford, Max Parshall, Duncan Whittaker, Capt. D. Shipley, Arthur Robinson, and others. We'll use much of this material, but I'm afraid we'll have to hold over some of the letters until next month.

Florence and Jim received Christmas cards from many classmates as follows: Arch and Clara Archibald, Bill and Marjorie Bendz, George and Ruth Bernat, Chris and Ruth Case, George and Mani Chatfield, Huyler Ellison, Bill Hurst, Bill and Sally Hall, Lewis and Helen Hess, Shikao Ikehara, Art and Adrienne Josephs, Fred and Janet Lewis, Paul and Kitty Martini, Mieth (Slim) and Alice Maeser, Carl and Frances Myers, Art and Mary Nichols, Rudy and Verna Slater, Dud and Betty Smith, Herb and Dorothy Swartz, Ray and Edith Wofford, and Abe and Ruth Woolf.

And from: Jan and John Chamberlain, Helen and Roland Earle ("With friendly thoughts and best wishes to all."), Anne and Walter Hildick, Tommy Larson, Kathleen, Taffy and Bob Larson, Bonnie and Vern Lewis, Helen and Bob Murphy

(with a beautiful handwritten card), Lelia and Walter Nock, Mary and Max Parshall, Gladys and Bill Phillips, Charlie Richheimer, Pam and Rene Simard, Anne and Ford Tibbetts, Jo and Wes Walters.

Florence also sends a number of notes that accompanied the cards. **George Bernat's** wife Ruth writes, "This year has not been a very happy one for us. Labor Day weekend on his way back to school our son Robert was killed in an automobile accident." I am sure that every member of the class extends deepest sympathy to the Bernats. . . . **Paul Martini**: "I've pretty much lost touch with life at M.I.T. I still contribute to the class fund and so get The Review. I am also a dues-paying member of the local M.I.T. group, but that is about my total association. I have yet to attend a reunion." (Maybe we can improve on Paul's attendance by getting him to our 40th.) . . . **Don Cryder** writes Jim: "I have spinal disc trouble and bursitis and have been advised to limit my activities." . . . **Elliot Grover**: "Recently I relinquished my position as department head at North Carolina University in order to reduce my burden of work; I continue to teach on a reduced basis." . . . **Katherine Hazen**: "I have just concluded three hectic years in charge of capital fund raising for the seacoast region of Mass. for my undergraduate college, Mt. Holyoke, of which I am a trustee." . . . **Holmes Iverson**: "For health reasons in July '63 I was obliged to retire from position with U. S. Envelope Company, where I had worked for 35 years." . . . **Warren Fleming**: "I had a heart attack earlier this year. I am back to work part time and expect to be O. K."

Jim includes a few notes. **Helen Murphy** says that Bob has things humming along—from a 7:30 breakfast to dinner at 10:45 P.M. He's moved Topps Gum to Pa. and has been doing a job in Chicago. . . . **Walter Nock** writes: "No doubt I neglected (?) to let you know that Lelia and I took a trip to Europe this summer. This was brought about because our son Ron was taking his junior year in Europe and we wished to meet him over there and tour Europe together. I am thinking seriously of retiring this coming year." . . . **Wes Walters** writes: "After 35½ years with the Corps of Engineers, I am retiring at the end of this year. We plan to head for Arizona for the rest of the winter." . . . **Anne**

**Tibbetts** writes: "1965 flew by, what with going to Germany for our son Gordon's wedding and then having our delightful daughter-in-law come to America to live. To cap it all, we became grandparents, when our daughter Jackie had a dear baby girl in October. This month of December finds me lecturing every day—often twice a day."

A letter from **Duncan Whittaker** on Dravo Corporation stationery follows: "I left the Boston area in 1941 and after two years in the Canal Zone and two years in Wilmington, Del., I have settled these past 20 years in Sewickly, Pa. As chief electrical engineer for Dravo Corporation, Pittsburgh, my duties have taken me across the U.S. and from Labrador to Peru, S.A. Most recent contracts for plants in Liberia and Australia may expand these travel frontiers in the coming year. Our engineering activities are principally to do with iron ore process plants and associated steel making. As to my family, we are many now. Wife Georgia; son Dana, with two children located in Atlanta; son Norman with one child, located in Cincinnati; unmarried daughter Carol teaching in Montpelier, Vt.; and son "Jr." at college in Pittsburgh. Long range planning enables me to celebrate retirement by attending the 40th reunion, since I will retire May 1, 1968; and then my wife and I will reside at our place on Cliff Island, Maine, where we have been summering since 1958. In case some do not remember the name, I was the Stanley Steamer (kid) while at M.I.T. (wish I still had it.)"

**Charlie Worthen** recently forwarded a letter to us from **Shikao Ikehara**: "Your kind letter dated November 10 reached me some time ago, and I immediately returned the enclosed card to Jim Donovan. It is thoughtful of you all to invite me to join you in the efforts for our 40th reunion gift to M.I.T. We shall all miss Ralph Joep, and yet he shall 'hear' of the contributions in the anticipation of his goal. On my part I shall try to send in my contributions when convenient. A few days ago Dr. F. Robert Naka of Mitre came to Tokyo; so I handed to him the Japanese money to be paid to M.I.T. in dollars. It is rather troublesome to send dollars. At this point I must apologize for my neglect to your letters in the past. Last March I had to retire from the Tokyo Institute of Technology (government institution) at the mandatory age of 60. I am now a professor of mathematics at a small private college. I note that your Company is celebrating its 50th anniversary. Congratulations to you all. Our M.I.T. Club of Japan celebrated its golden anniversary in the same year when M.I.T. celebrated its first century."

Early in December I received a letter from **Arthur Robinson**, 4 Euclid Ave., Delmar, N. Y., in which he stated he officially retired from the Bureau of Public Roads on May 4, 1965. He was having some trouble with his ticker; and after a month in the hospital, during which he had a thyroid operation, they stopped his heart and started it again electrically with a normal beat to take out the skip. He continues, "Our daughter graduated from State University College of Albany

and she is now teaching Spanish at junior high in Miskayuna (a suburb of Schenectady). She has an apartment with another teacher but spends a lot of her time at home with us. Since last April I have been fine and up to all sorts of things, including golf at least once a week, right up to last week. I painted the house, shingled the garage roof, and just got through painting and papering a room. Last summer we toured New England and made a trip to Montreal and Quebec. At Montreal I talked on the phone with Ed Huckman '26. We were in the same high school class in Methuen and roomed together in Boston one year. We are planning to take a trip to Florida this year but expect to return to Albany as our permanent home. You remember I was division bridge engineer for the Bureau of Public Roads for about 18 years and altogether had about 34 years with the government."

After the Merry Christmas preliminaries, **Fritz Rutherford** of Frogmore, S. C., says: "Jo and I are planning a trip around South America during the months of February and March. We fly from Miami to Caracas, Venezuela, on 4 February and will be there for two days. From Caracas we go to Rio, Sao Paulo, Buenos Aires and then over to Santiago and the Chilean Lake District. Then up to Lima and the Inca country and return from there to New York via ship. All is well down here in the deep south, where we are located on an island half way between Savannah, Ga. and Charleston, S. C. Best wishes to the class of '28. P.S. I forgot to tell you that last year we spent three months traveling all over Europe and then last spring we covered the Mayan and Aztec nations of Mexico."

A news clip from the New York Times of December 2 contains a pretty good photograph of Dr. **Harold W. Bialkowsky** with the information that he was recently elected president of the Stora Kopparberg Corporation, New York. "The company is the American subsidiary of the 800-year-old Stora Kopparberg, Bergslags Aktiebolag of Falun, Sweden, one of the largest producers of pulp, paper and steel in Scandinavia. Stora Kopparberg is said to be the oldest publicly owned corporation in the world. Dr. Bialkowsky, who became 59 years old yesterday, also was named president of Nova Scotia Pulp, Ltd., succeeding Mr. Clauson. Dr. Bialkowsky, a native of Holyoke, Mass., joined Stora Kopparberg in 1961 as assistant to Mr. Clauson. Earlier, he held research and development posts with the Weyerhaeuser Company, dating back to 1941."

A note from the Alumni office tells us that **John J. Hartz** of Akron, Ohio, returned at the end of November from a 10-day visit to Hawaii (very enthusiastically). John is tire development manager for Goodyear Rubber Company and is a member of the Alumni Fund Board.

It is with the deepest regret and sorrow that we report the death of **Samuel J. Shure** of St. Louis, Mo. He was graduated from Course II and died December 23, 1964.—**Hermon S. Swartz**, Construction Publishing Co., Inc., 27 Muzzey St., Lexington, Mass. 02173.

## '29

We have been asked to "pass the word" to all M.I.T. Aluzani about the 18th Annual M.I.T. Fiesta to be held in Mexico March 10-12. Reference to this may appear in other class notes; but in case you are interested (and if there is time) you can write for further information or reservations to Mr. Armando Santacruz B., Fiesta Chairman, M.I.T. Club of Mexico City, Reforma 116-804, Mexico 6, D. F., Mexico. An exciting program is planned, including sightseeing trips, for this special event so if any '29'ers attend this affair I am sure a firsthand report would make interesting class news for those who have never been to a M.I.T. Fiesta in Mexico.

The announcement of the election of Dean Howard W. Johnson as 12th President of the Institute brings to mind that all of us who graduated in 1929 have been on hand through three presidents—Dr. Compton, Dr. Killian, Dr. Stratton—with the greatest admiration and appreciation for the progress accomplished under each. And now we bring our best wishes to our new M.I.T. President.

Quite coincidentally, we have additional news about **George White** and **Norman Wickstrand**, both from Connecticut and both of whom made the class news in the January issue. A newsclipping from the Hartford Courant adds information about Norm Wickstrand's extracurricula activities with a writeup of a program which he headed in Bristol, the theme of which was "Remarks of a Rock Hound" wherein he spoke to children in the 4th, 5th and 6th grades, including a display of his personal collection of rocks and minerals. This was in connection with an enrichment program for children sponsored by the Bristol Women's College Club which took place in October. . . . From the Worcester Gazette and Telegram, we have word of George White's promotion to Vice-president of General Foods Corporation in December and he will direct the company's corporate engineering department. We learn that he started his career with the firm as a plant chemist for Minute Tapioca Company. Congratulations, George.

**Frank B. Stratton** made the news in the Springfield Union in December with the headlines "Wilbraham Teacher Back to First Love—Music." Since graduating from M.I.T., Frank has held down a number of impressive positions in the development of the first atomic bomb and for 11 years was chief chemist in the research and development division of a major manufacturer of household appliances, with time out in between to earn a master's degree in music at the Eastman School of Music at the University of Rochester. He also taught music at the Phillips Academy in Andover, Massachusetts State College and Grinnell College; plus being a traveling representative for a major New York music publisher. He is now teaching music at the Wilbraham Academy.

We still have a handful of questionnaires to report on, mostly of those who

have settled in the New England environs and close to our Alma Mater. **Winfield H. Bearce** resides in Hallowell, Maine, where he is distribution engineer and manager of Distribution Department, Central Maine Power Company, Augusta, Maine. After graduation he worked for G. E. a short time, taught school and worked on the Hoover Dam and in 1934 started his career with the Central Maine Power Company. His hobbies include photography and gardening and he parenthetically adds "amateur." . . . From Middlebury, Vt., we had a reply from **Harold F. Dean** who has pursued the field of architecture as his career, teaching and managing his own business. He is a member of AIA—Historical Buildings, Vermont. . . . **Hugo Rush** listed his home address as Manchester Village, Vt., but his questionnaire was postmarked Clearwater Beach, Fla. He is presently retired after 31 years commissioned service in USAF from 2nd Lt. to Major General, as an active pilot from Jerries and DH's to and including jet aircraft. Such an exciting career goes hand in hand with extensive travel, which included three world tours, Trans-Siberian Railroad and one flight over the North Pole for Hugo. More later. Best regards to all.—**John P. Rich**, Secretary, P. O. Box 503, Nashua, N. H.

## '30

One aspect of TV panel shows that has always impressed me is the ability of the MC to introduce the panelists each week in a manner that sounds somewhat different from the previous week's introduction. This comment is apropos a Class Secretary's problem that may not have occurred to you, namely, the monthly search for a suitable opening gambit for the Notes. This month I tried, but no inspiration came to mind. . . . **Jarvis "Bub" Wilson** is vice-president—Operations—Administrative of the Rochester Telephone Corporation and also a Director of the Lincoln Rochester Trust Company. He and Muriel live in Pittsford, N. Y., where they frequently see the **Nelson Coopers** who also live in Pittsford. The **Wilsons'** son David graduated from Amherst in '60, thereafter studied at the University of Poitiers and Tubingen in France and Germany respectively, and is now in the Army in Korea. Their daughter Ann graduated from Skidmore in '64 and is now married and teaching school in Syracuse. Bub reports having recently seen **Charl Cillie** who is with G. E., lives in Closter, N. J., and is "manipulating the stock market." He has also had some contact with his fellow telephone employee, **Earl Ferguson**, who is assistant vice-president of N. Y. Telephone Co.

**Les Berman** is still with S. C. Johnson and Son (Johnson's Wax) but has been promoted from Boston District sales manager to sales coverage and distribution manager at the main office in Racine, Wis. Les and Gertrude moved to Racine in September '64. Their daughter Maxine attended University of Vermont and gradu-

ated from the Tobe-Coburn School. She is married, living in New York and is an editor of *Glamour* magazine. . . . **Herm Botzow** reports that he is "mostly retired" but "works a little here and there." His older son Hermann, Jr. obtained a B.S. at Princeton, an M.S. at M.I.T. and works as a planning engineer for the New York Port Authority. Younger son William is a business major at College of the Ozarks in Clarksville, Ark. Hermann, Jr. is married and has three daughters. Herm senior reports having recently seen **Jack Bennett**, **Jim Holden** and **Ted Riehl**, and that Ted recently became a grandfather. . . . **Otto Zigler** is at the Richmond Professional Institute where he started teaching mathematics and physics in the School of Engineering Technology last September. . . . It appears that last month's report on **Sam Zisman** is somewhat out-of-date. A more recent clipping indicates that he is now a visiting professor of architecture at University of Utah, as well as the consultant on the Second Century Plan for Salt Lake City.

**Charley Dwight** has been appointed assistant to the Chancellor of the University of Hartford. He will also retain his job as director of the U. of H. Research Institute. . . . **Sidney Kaye** has been appointed a fellow of the Royal Society of Health. . . . Changes of address: **George Barker**, 1516 Hinman Ave., Evanston, Ill.; **Leslie Berman**, 462 Shoreland Dr., Racine, Wis.; **Brig. Gen. Herbert Ehrigott**, G. P. O. Box X2296, Perth, Western Australia; **Howard Gardner**, College of Forestry, University of Washington, Seattle, Wash.; **Lawrence Gonzalez**, NAVSHIPO, APO, New York; **James Merrill**, 2881 Walnut Ridge, Akron, Ohio.—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York, N. Y. 10036.

# '31

By the time you read these notes, you will already have received the brochure giving the details on our Class Reunion at the Wianno Club on June 10 to 13. At this time, January 15, 1966, approximately 150 of our classmates have indicated that they hope to attend. (My face is red since my name isn't on the list of those expecting to attend. Apparently, I neglected to send in my note saying I'll be there.) All indications so far are that it's going to be one of our best Reunions . . . so don't miss it. The festivities will start Friday—June 10—afternoon and continue through Alumni Day on June 13. Registration starts on Friday, June 10, about 4:00 P.M.; dinner at the Wianno Club is served until 8:30 P.M.; then an informal evening with music, songs from way back and good comradeship. Saturday will be a day for relaxation in the company of your classmates and their families; lunch will be served at the Club with entertainment by your Classmates; cocktail time starts at 6:00 o'clock, followed by the Class Banquet. **Gordon Brown**, Dean of Engineering at Tech will give an off-the-record talk on how M.I.T. views and is meeting the changed and changing

environment in the field of education and Professor Harold Edgerton will give one of his famous and interesting lectures on stroboscopic lighting and underwater photography. The traditional shore dinner will be held on Sunday, June 12, after which we will adjourn to Cambridge. The Alumni Day Committee has arranged for the showing of Jacques Costeau's "World without Sun" for Alumni and guests on campus.

I had lunch with **Jack Lane** recently. He hasn't changed a bit and I still can't figure how he continues to keep that slim figure. . . . Via ham radio, **Fred Elser** told me he wasn't hurt by the bad storm that hit southern California recently. It was also his first Christmas without any of his children around, so he put in a conference call so he could talk with them all. . . . I enjoyed seeing **Myrle Perkins** at lunch a few weeks ago and talking about our M.I.T. days as well as our classmates. . . . A release received from the Alumni Association tells of **Jim Fisk's** election as trustee of the Alfred P. Sloan Foundation. . . . Another release tells of **Alex Kuhnel's** installation as president of the New York Chapter of the New York State Society of Professional Engineers to serve the 1965-66 term. All of us, I'm sure, extend our congratulations and good wishes to the new President of the Institute, former Dean **Howard W. Johnson**, the 12th President of the Institute. New addresses received since the last notes are **Emmanuel J. Fournier**, 2912 5th Ave., NW, Calgary, Alberta, Canada; **Eugene W. Macoy**, Middlesex Jr. High School, Instructional Materials Center, Hallow Tree Ridge Road, Darien, Conn. 06823; and **Edward J. Norris**, P. O. Box 477, No. Windham, Maine 04062.—**Edwin S. Worden**, Secretary, 35 Minute Man Hill, Westport, Conn.; **Gordon Speedie**, Assistant Secretary, 90 Falmouth Rd., Arlington, Mass. 02174.

# '32

Professor **Manson Benedict** has recently been appointed by Massachusetts Governor John A. Volpe as a member of the Advisory Council on Radiation Protection. . . . **Roy Haeusler** has been appointed as Chief Engineer, Automotive Safety at the Chrysler Corporation. Roy has been automotive safety engineer for Chrysler since 1955 when the company became the first to establish such a position. He joined Chrysler in 1934 and held engineering positions in fuel systems development, engine performance analysis and military vehicle design before 1955. . . . Major-General **Thomas A. Lane** (Ret.) has been signed by General Features Corporation to write a weekly syndicated column on "Military Affairs." When you see it, remember that General Lane was born in Revere, Mass., graduated from West Point in 1929, and received an additional degree at M.I.T. before returning to West Point as an instructor. Because of his subsequent long service in the South Pacific area, he is highly qualified to write on the military

situation in Vietnam and that section of the world. . . . This recalls another West Point and M.I.T. graduate who died in December 1955, the late Major General **Frank D. Merrill**, leader of Merrill's Marauders in Burma during World War II. When General Merrill retired from the Army he chose New Hampshire as his adopted state and initiated a forceful campaign to develop fast, safe and clean highways, serving as state highway commissioner from 1949 to 1955. . . . **Dr. Lewis Fussell, Jr.**, died on October 4, 1965. He was a graduate of Course VI and last resided at 3212 Ashby St., Las Vegas, Nev. . . . **John H. Kellett**, a graduate of Course V, whose home was 34 Olive Street, Methuen, Mass., died on November 22, 1965. He was president of the Treat Hardware Corporation which he joined in 1933 following graduate work at M.I.T. Among his many civic connections, John was a member of the Executive Committee of the Essex Agricultural Society, a member of the Merrimack Valley University Club, and a 32nd degree Mason.—**Elwood W. Schafer**, Secretary, Room 13-2145, M.I.T.

# '33

As this is written, it is the day before Christmas, and, as one reads it, it is springtime somewhere; maybe in San Antonio. By the way, whatever happened to **Bill** and **Bobby Harper**, and I mean Dr. and Dr. Harper? I had occasion to tell Wm one time that I had no intention of stating facts about him, if a little fiction would sell more papers. Now, surely that bit of tomfoolery didn't alienate his affections. I should know before March 15.

We are doing a little better this month. The accumulation of gossip etc., in November reached an all time low, so December promises to be more memorable in some respects. I have a card and a short note from **Harry Summer** (Lerner Shops, Chicago). Harry goes into much detail on what he is not. He is not a grandfather. He is not even a father-in-law; and still not even a college father. Now what, may I ask, is a college father? Well, Harry, I agree that it is surely later than we think. It seems to me that Harry had a couple of sons, but they are much too young for making Harry a candidate for any of this stuff. Harry sends greetings to all classmates. Maybe I should have sent all you of the faithful greetings written during the first week in October. That is when the December notes go in.

From Burlington, Iowa, comes a rather long and good note from **Bill Baur** (Course II, '33). This just adds to the usual confusion, as Bill lives in Philadelphia, and works for G. E. at their switchgear plant there. Now it seems that they are tripling the size of a satellite plant in Burlington, and, inasmuch as switchgear is involved, Bill has to go back to work and start buying machine tools for the new part of the plant. As you fine gents and ladies may well remember, machine tools strike a favorable note with me, to

manufacture an understatement. I really don't care how many Bill buys so long as they are all Warner and Swasey. Fortunately he had already been there, was satisfied with the quoted deliveries, and placed an order. Us salesmen can't eat off that order for almost a year. Bill, at the top of the letter, said that he had no news to contribute, and proceeds to write two full pages. Though he is still a resident of Phila., Wm avers that he expects to retire at the end of two and a half years. I thought I was the only one who could retire while still a boy. Bill is a grandpa twice, and didn't notify me, so he gets into the Club aboard the second one; both are children of his daughter, who is quite a bit older than her brother, who is still in school, and on his way to college. Last and not least, it now turns out that Clare, his good wife, goes annually to Westa Palm, visiting relatives, I expect. The important item follows; Bill expects to join her a little later, and they will look around for a retirement home. Now, my good folks, comes the Chamber of Commerce plug: if there is anything that we have in Florida, it is retirement homes, by the hundreds of thousands, big, little and my kind. Bill is a rather level-headed Deutscher, or I would have cause to worry, what with so much from which to choose, one might well go nuts making up his mind. It is indeed fortunate that Bill had nothing to contribute, as if he had we might have had to order a special edition of the Review. Thanks from the heart of my; oops, bottom of my heart, Bill, for the nice card and long letter. I sure could use a dozen or so like you.

Doctor **Eddie Loftus** has moved to Scituate, Mass., and **Dick Warner** to Falmouth, Mass. Dick warned us about this earlier.

I have a rather nice, and long letter from our Good Class Treasurer, **George A. Stoll**. He says that he had sold the family business, had been sick at the time of the 25th. He forgets, or does he, that we told this yarn once before and at length. George, please don't take this as a criticism. It is not. If you want to send in the same info again, you do that, but do it in a month when I need more material for the mill, like November any year, I expect. Anyhow, George is now a consultant. As a matter of fact, I am one of these myself, but, we call ourselves members of a consulting committee. George is with a firm of food brokers. Now this may mean the kind of food that we all consume, or it may be dog food. It can't be the kind we use at the farm, as that is known as feed. I do wish these young fellows would be more specific. He wants to know where **Bill Pleasants** is. Bill was selling oil for Atlantic one time, recently; then he sent me an address in Ireland, then another in Rome; then still another in Puerto Rico. Correction; he sent the Alumni Office these address changes, probably so that he would not have to tell me what he is doing, or for whom he works. To get back to George, he also would like to hear from any and all **Theta Chis**. Names mentioned were **Morse**, **Putnam**, **Turner**, **Hentschel** and **Bell**. I throw the names in here, only in the hope that some or all of them will relent and write

me. If they write George, I never will get any closer. George gives us a family background resumé, to wit: wife **Bridie**, is a golfer, sailor, campfire girl director, church nursery and kk (?) director, and last but not least, a baby sitter. **Maren**, daughter 26, husband, **Colby**, Jet Pilot Active Marine Reserve. **Maren** and **Colby** have two children. No, **Georgie**, **Bridie** is not a member of the Grandmothers Club unless she is a classmate. Wives are the Auxiliary. Son **Peter** is a grad student at U. of Mass., with a controlled body of Aerial Agronomists on the CRV Rec project(?). (I only quote). George is also a comedian, fourth class; here's what follows his name: **NFB A**, **EPCC**, **USPS**, **PQMH SA**, **PBTC**, and official custodian of the Book #2S-42589 **F F S** and **L Ass**, **M.I.T.** 33. Figure it all out yourselves; I did belong to one of these, the one that alludes to, or is found on, water. He added a PS, "No reprints, U. P. L. Pls. In a way, I feel quite comfortable when I realize that George doesn't write every day, or even every year.

I have one more personal; that is, so far (Dec. 23), and it is a post card, signed by a "Devoted Reader." Now, folks, I do not get upset when I get an anonymous letter or card, as I am tickled to get anything, even though the anonymous writer is a lower form of life. The meat of the subject: The December issue, I do believe, had a reference to **Gordon Bunschaft**, Architect, and a fine building that he designed for Yale University. Anonymous, don't get excited on any of this as I am not trying to be accurate. As I wrote the original notes, I wrote **Gordon first**, and next I made it **George**, really by mistake. So, instead of correcting it, I made the same mistake two or three more times, this time on purpose, going on the theory that no mistakes start no comments, but a real honest mistake invariably will be corrected, and usually by several readers. Do any of you folks remember a newspaper article, 12-15 years ago, which told the story of a very large steel cylindrical tank, made somewhere up the Hudson River, to be towed by tug to the customer's place in New Jersey? I have been told, since then, that the interviewee mentioned purposely that they would fill this tank with compressed air at high pressure in order to make the floating tank more buoyant!! Every engineer of small note, all over, took occasion to comment on that one. So-o-o, I got one reply, anonymous.

The Secretary of the M.I.T. Club of Mexico City has asked us to pass on information on their 18th annual Fiesta in Mexico. It is unfortunate that we did not know about this happy event sooner, as there is scarcely time enough left to do the boys much good, as March 10 is the date in question, and this March issue will not be out and around until early March. I have, with the implied permission of our Officers, written **Senor Armando Santacruz B**, Fiesta Chairman, that we can help a lot more if we are given a chance to include his announcement earlier. Reservations for a two and a half day program may be made by writing the Chairman, M.I.T. Club of Mexico City, Reforma 116-804, Mexico 6, D. F. Mex-

ico. The program is interesting, and but a part of what might well be a real winter vacation in this charming neighboring country. We have two classmates in Mexico City, **M. D. Asunsolo** and **J. B. Calvo** and one in the further north City of Monterrey, **Senor de la Fuente, J.** We sure would like to hear from the above, and any others who may not be properly listed. Keep this annual Fiesta in mind, and look for word of the next one in the November or December 1967 issue of the Review. It has been some years since I last visited this lovely country, and my interest is now reawakened; I might well attend this Fiesta, were it not for a previous commitment: a South American trip. This is to be a **Moore-McCormack Cruise**, in Rio for upwards of a day at Mardi Gras time. Ho! Ho!

Following the International Livestock Show in Chicago in late November, I found it necessary to go to the farm for a day, so I found myself at the Sheraton-Boston the night of the M.I.T. dinner, held at that hotel in connection with the dedication of the Earth Science Building; now called the Green Building. At the dinner I met not one classmate, but did make a few new friends, talked briefly with a number of VIPs, including **Dr. Stratton**. I enjoyed the event greatly, though, being an old timer engineer, most of the text of the speech was way over my head. All was not lost, however, as I sold an **Angus Bull calf** for 1966 fall delivery, complete with 40% deposit. After the dinner, while on my way to the attractive little **Polyneesian Room (Bar)**, I ran into **Mel Dolan**, our Mechanical Engineer who got away and joined the law. No news from **Mel** as he was a part of a domestic foursome, heading for a late dinner. He never sees any classmates, he says, not even **Moe Gordon**. I would like to hear from **Moe**, as his story in Goodridge was just a trifle sketchy.

I just received a copy of the M.I.T. Newsletter, and am interested in it, as it is an effort to enhance and encourage donations to the Alumni Fund. I am also interested in who gets it as it is full of news and I was about ready to quote from it, when I realized that it might go to all Alumni. Hope **Fred Lehmann** will advise me, either to use the material, or warn me not to, though I can take a hint.

A note comes to hand from one of my "anointed." This term applies to those fellows who have agreed to send me information on classmates. Readers from now on will see the expression "anointed" very often, I hope. Now the note is from **John King**, who, last we heard, was making like a Chairman of a meeting in St. Louis, and finding speakers for the Symposium. John is convinced that this is a thankless job. O.K. John, plus this one; please avoid becoming a **Class Secretary**. It appears that John ran into **Colonel Newton** and **Mrs. Newton**, at **Cape Kennedy** last month (Nov.). He had dinner with the **Newtons** at **Patrick Air Force Base**, and he gives us a very glowing tribute to **Mrs. Newton**; I quote, "... very, very, gracious Lady." Also, he enjoyed the dinner, but he did not mention if he enjoyed the **Colonel**. Well, John, as you may well see, you just can't win.

Thanks a whole lot, John, for the very nice, and timely, letter. I, of course, will expect others regularly. . . . **Ferd Johnson** has severed his connection with **Whitin Machine Company**, and is now connected with **Albany Felt Co.**, Albany, N. Y., though he still lives in **Whitinsville**, not having sold the house. He wrote following a note from me, asking where we can find **Gunter Kohlmann**, Course II. So, Gunter, come home; all is forgiven. We need an address, if nothing else. Ferd has a summer cottage in Washington, N. H., so will be a New Englander part of the year. Also, like many others, he will stop in and see the **Angus**, manana! A very nice letter, Ferd; I am grateful for the letter, and, the effort to find G. K. If you do find him, take a few notes, and an address, and forward to me. . . . Now another country heard from; **Norm Harris** writes from **Philadelphia** (really **Cherry Hill, N.J.**) that he is now with the **Manufacturers Mutual Fire Insurance Company**, one of the **Factory Mutual Group**, of **Providence**. Norm has the **Philadelphia Office**, after a short seven year lapse in the plastic business in **Attleboro**. Did you not see **Fred Murphy** thereabouts? Before the plastic business, Norm was with the **Boston M. M. F. I. Company**, in **Boston**. I note, with much pleasure the names of two **M.I.T. Alumni** on the letterhead; **Hovey** and **Roger M. Freeman, Jr.**; a son, and a grandson(?) of the **Founder** of this famous Insurance group, **John R. Freeman**, who was a personal friend of an old uncle of mine, **Mr. Swasey**, of **Warner and Swasey**. Norm, you are connected with a very distinguished group of men, past and present. Is not **Lou Flanders** also a disciple? Norm also belongs to the **Grandfathers Club**, having three grandchildren, and he also has a 15-year-old son, who is better than average, for his age, at tennis and basketball. In passing, once again I must make with a definition; members of the **Grandfathers and Grandmothers Club** must be 1933 Alumni; there are none of the latter as yet. I can't seem to get the girls to let me in on it, even though the law of averages says that we just must have 1933 girl grads with grandchildren. Can this reluctance have any connection with refusals to divulge ages? I know of one fair classmate who has grandchildren, as one of her friends told me, via the mails, but, the little ol' grandmother must tell me herself, and, so be eligible for a suitable bouquet of flowers. Incidentally, the first gal that writes me on this subject, and qualifies, will get a really big bouquet. This is a promise, and I sure will keep it.

Now, who drops in at the Florida address? **Bob Forbes**, **Knoxville, Tenn.**; vestryman for the **TVA**, active **Barbership Quarteter**, and **Sec'y-Treas.** of the local **M.I.T. Club**. Bob and his attractive little Missus phoned from **Fort Lauderdale**, and were asked to visit the same day. It turned out that it had to be the same day, as Bob was about to shove off for **Knoxville**, pronto. I will not try to repeat a previous write up on this character, though a real and personal visit rates it. Bob has promised to become one of the "anointed." That makes two. I will

need about 25, and have already started out to find them. Probably only incidentally, **Bob Forbes** was the third classmate to take advantage of dropping into the Florida address. President **Goodridge** was the first. Perhaps more will be able to find us. Anyway, Bob, it was great to have a classmate take advantage of the long standing invite to drop in (but phone first to make sure someone is home).

With no press clippings as of Jan. 5, the well seems to be running dry!! . . . **Edward E. Foster** and his good wife were both killed in an automobile accident, on November 27, 1965. We have no details other than the strictly dry notice from the **Alumni Register**, so we have no way of knowing about any surviving children or others. If there are any, we extend, on behalf of all the class, our most sincere sympathy.

That's it. More press next time (April), and less personal stuff. The May column may be sketchy, as I will be out of the country from February 10 to March 10, (app.). There will be a column but it will not look like the regular stuff, perhaps fortunately.—**Warren J. Henderson**, Secretary, **Fort Rock Farm, P. O. Box 14, Exeter, N. H. 03833**.

## '34

I note from the January issue that one of my counterparts of the class of 1933 is so desperate for news that he is on the verge of offering a reward. I will defer making that offer until after March publication. If you want to read, you have to write. So, please help us out. Send some news items. The following is about one of our classmates, once removed, who received his **Masters Degree** with us. "**Peter Kalustian** has been elected Vice-president of **Drew Chemical Corporation** and has assumed the responsibilities of corporate production and technical director, according to an announcement made recently by **Robert W. Preusch**, President. During his 31 years with **Drew**, **Kalustian** has worked primarily in production and management. His experience covers many phases of the operations such as research, product development, formulations, engineering, plant expansion, and recently technical sales, sales service and development. He is well versed in the operation of the main processing plant at **Boonton, N. J.**, and has also had experience in the firm's other plants in the **United States and Canada**. A recognized authority in the field of industrial and edible fats and organic chemicals, **Kalustian** has written a number of papers in this area. He is a registered professional engineer and is very active in several professional and technical societies. He holds a **B.S. degree** from **Tufts University**."

**Charles M. Parker**, Secretary, 3 William St., Norwalk, Conn.; **W. Olmstead Wright**, 1003 Howard St., Wheaton, Ill.; **Kendrick H. Lippitt**, 3782 Putter Dr., Chula Vista, Calif.; **Norman B. Krim**, 15 Fox Lane, Newton Centre, Mass. 02159.

## '35

**Brief editorial:** Too many of our classmates pursue very successful professional careers with complete indifference to their physical well-being. By the time they have it "made," they are ready for the bone heap. It is well established that regular participation in vigorous exercise will keep the body functioning soundly far beyond the sorry statistics of our historical ages. There are many good physical fitness programs, one of the best is that developed by **Dr. Thomas K. Cureton, Jr.**, of the **University of Illinois**. It is offered at a number of **YMCA's** throughout the country. Join one and "live" again!

**Tom Keeling** and **Jack Orchard** recently collaborated on a most interesting and exhaustively comprehensive international marketing survey, Tom as Vice-president and general manager of **Kopper International Operations** and Jack as special assistant to the director of the **Bureau of International Commerce** of the **U. S. Dept. of Commerce**. In December Jack was made director of a newly created **Domestic/International Expositions Staff** in the **Department of Commerce**. His responsibilities will be the evaluation and coordination of Federal participation in events such as the **New York World's Fair** and the upcoming **Alaska Purchase Centennial** in 1967. . . . Jack was the donor of the "latest father trophy" which is currently one of **Gerry Golden's** proudest, albeit temporary possessions. Gerry has been doing things in a big way in the materials handling business and he and his company (**The Langley Company**, of **Cambridge, Mass.**) have been the subject of many lengthy articles in trade and news publications. **Wes Loomis** has written many articles for trade publications, the most recent of which appeared in the **Public Utilities Fortnightly**. Wes is president of the **General Telephone Directory Company**.

**Lou Pfanz** sent a long letter from **Ankara, Turkey**, where he is chief of signals of the **Central Treaty Organization** or **CENTO** as it is called. Lou's letter, in part, continues ". . . In June 1966 we will depart here for a new assignment back in the Land of the Big Post Exchange. On our return we hope to be able to drive all the way through **Greece, Bulgaria, Austria, Germany** to the **Port of Bremerhaven** and return from there by ship to **New York**. Or, if I am able to sell my car here in **Turkey**, we will take that mysterious train called the **Orient Express**. One of our main reasons for wanting to go home via **Germany** is to show our first born **Nancy Ruth** the place where she was born in **Heidelberg** back in 1952 when we were stationed there. On the way over here we came by ship to **Naples** where we stayed about nine days and then embarked on a **Turkish ship** for **Istanbul**. Thence by train to **Ankara**. Due to my wife's poor health we were unable to travel around **Turkey** and view the many religious and holy sites mentioned in the bible and the Christian world, or even to visit the many places the **Crusa-**

ders built while on their safari for the Holy Grail. Travelling in Turkey is a real experience. Modern hotels or motels are few and far between, some roads have not been repaired since the crusades, and the Turkish truck driver has no concept of traffic safety or courtesies or customs of the road. A two-lane road will have three trucks abreast climbing hills or going down and the poor car driver either has to drive off the road or be run over. I spent a week as a guest of the Turkish Army in Eastern Turkey. We travelled by jeep and I never have seen such wild and desolate country in all my life. One night we stayed at the former hunting lodge of Czar Nick II when Russia occupied that part of the world . . . but that is a story all in itself. Saw Mount Ararat but not pieces of the ark sticking out. In about another year of this hanging one's hat in the oddest places and calling it home I will embark on a new career called Civilian. The new career is really necessary as by the time the army says I am too old to fight (age 55) my first born will be ready to enter college. Then come two more (a girl and a boy). Trying to send all three through college on one's retired pay is impossible, so like all army colonels who have children I must find a new field of endeavor. However, unlike most retired colonels, I will not sell insurance, mutual funds or used cars. I believe I have something to offer large organizations and that is the concept of corporate communications management function, i.e. the supervision of the expenditure of substantial sums of money to the end that a company may communicate as effectively, as efficiently and as economically as possible. So, Irving, if any of our readers know of organizations needing such corporate communications management I would like to be notified post haste. Regards, Col. Louis Pflanz, Jr., U.S. Element CENTO American Embassy APO New York 09254.—**Irving S. Banquer**, Co-secretary, 20 Gordon Road, Waban, Mass. 02168; Regional Secretaries: **Arthur C. Marquardt, Jr.**, 178 Mt. Vernon St., Dedham, Mass. 02026; **John H. Colby**, Rt. #1 Box 91A, Islamorada, Fla. 33036; **Edward Loewenstein**, 444 Cornwallis Drive, Greensboro, N. C. 27408.

# '36

An exchange of Christmas notes brings some bits of personal news this way: a card from Margaret and Jack Austin included this note from our Class President: "Since the first of the year I have been with Rheem Manufacturing Company as Corporate Director of Market Development working with all our various divisions here and abroad, which accounts for my 'disappearance.' I maintain my headquarters in Chicago—easier to shoot off in any direction than from New York." . . . From the Francis Petersons in Richmond, Va. an account of what sounds like a delightful summer trip to Europe and an account of Pete's current doings. I quote, "Pete is supervisor of Employee and Public Relations at Texaco

Experiments, Inc., the aerospace subsidiary of Texaco, Inc. We are busy developing boron filaments for the Air Force, ramjets for the Navy, and instruments for exploring the moon and the bottom of the ocean (Project Mohole). We are expanding rapidly, and the employee relations business is booming . . . Pete loves it and finds engineering with people just as interesting (if not more so) than engineering with engines." Their son Ken is at Penn State and David in ninth grade. . . . **Hank and Ruth Lippitt** have had a full year since their marriage and the account makes interesting reading. They too were in Europe to visit Ruth's mother in Switzerland and Lippitt relatives in Austria. In between Hank pursues his work as attorney for the California Gas Producers Association. . . . The Alumni Office reported a change of address for **Robert B. Woodcock** (337 Brookside Road, Darien, Conn. 06820). As a result of my query he writes: "Have been at this address for nearly four years. No news. Still President of John M. Glover Agency, Inc. General Insurance" in South Norwalk. . . . **Ariel Thomas** has been admitted as a partner in the firm of Metcalf and Eddy. He has been with them since 1946 and has been a senior associate since 1961. . . . **Dr. Stanley G. Robbins** has been named director for the Mallory Institute of Pathology at Boston City Hospital. He has been serving as associate director since 1953 and has been associated with the Boston University School of Medicine for more than twenty years. . . . Your Secretary had her picture in the Boston Herald recently with doctors from the Joslin Clinic in connection with a building program at the Clara Barton Birthplace Camp for Diabetic Girls. I am serving as chairman of the building committee. Our architect, Marilyn Fraser, is a sister alumna. I am involved in the operation of several Girl Scout camps as well. —**Alice H. Kimball**, Secretary, 20 Everett Avenue, Winchester, Mass. 01890.

# '37

**Harvey Phipard** recently received Patent 3,195,156, prosaically entitled, Method of Producing Thread Swaging Devices. He assigned it to Research Engineering and Manufacturing, Inc., New Bedford, Mass., for which he is a director of engineering. It is a subsidiary of the Continental Screw Company. While his patent was pending, more than a billion and a half of his Tapite screws were manufactured in this country. The year after graduation, Harvey married and went to work for Continental. Since then he has collected many foreign and domestic patents on fasteners. The Phipards live in South Dartmouth, Mass., and Harvey is director of the New Bedford Yacht Club. . . . **Vladimir Haensel** has been honored by the National Association of Manufacturers, with an award as one of the "Modern Pioneers in Creative Industry" which are presented to individuals and research teams for their outstanding contributions to modern industry. . . .

**Gil Mott** has been appointed Vice-president of Parsons-Jurden Corporation, New York, N. Y.

**Bertrand Bennison** has been appointed head of the department of biological sciences at Drexel Institute of Technology. Bennison joined the U.S. Public Health Service in Washington in 1942. He worked on field assignments and did basic Health until 1953. Between 1954 and 1959 he guided clinical and laboratory research in a variety of health problems in relation to petroleum and related chemical products at Esso Research and Engineering, Linden, N. J. In 1960 he joined the Ortho Pharmaceutical Corporation as assistant director of research. Between 1949 and 1952 he published articles in the Journal of the National Cancer Institute and in 1958 co-authored a study of cancer mortality in employees and annuitants of an oil company. This material was published in the Medical Bulletin of the Standard Oil Company of New Jersey. He is a Diplomat of the American Board of Preventive Medicine and is licensed to practice medicine in New York, New Jersey and Massachusetts. He has served on the Visiting Committee of the department of biology at M.I.T. He lives in Princeton, N. J., with his wife and four children.—**Robert H. Thorson**, Secretary, 506 Riverside Ave., Medford, Mass. 02155; **Prof. Curtiss Powell**, Assistant Secretary, Room 5-325, M.I.T., Cambridge, Mass. 02142; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N. J.

# '39

Brigadier General **Leo A. Kiley**, X-B, has taken command of the Air Force Missile Development Center at Holloman Air Force Base, N. M. That is a new development, following his recent promotion to general rank, as noted here in the January column. Leo holds a Ph.D. degree from Ohio State University, and planned and executed "Velva Uniform," the detection of underground nuclear shots, for the Department of Defense, in Project Gnome at Carlsbad, N. M., and the Nevada Test Site.

A short news item in the November 15 issue of Aviation Week and Space Technology noted that **Richards L. Loesch**, IX-B, was one of five Boeing Company engineers who received the 1965 Elmer A. Sperry Award for their different roles in the concept, design, development, and production of high-performance subsonic transports. . . . **Wayne J. Holman**, XV-Grad, a Georgia Tech graduate of 1928, is treasurer of Johnson & Johnson Company, headquartered in New Brunswick, N. J. Formerly president and later chairman of Chicopee (Georgia) Manufacturing Corporation, Dr. Holman left Chicopee in 1963 to join J & J. He was the first president of the Alfred P. Sloan Foundation Fellows of M.I.T. He is a trustee of the Foundation for Economic Education, the Georgia Tech Foundation, and New York University.

**Norbert L. Kusters**, II-Grad, is principal research officer and head of the Elec-

# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	No. Active	1/31/65		1/31/66	
		No. Contribs	%	No. Contribs	%
'34	577	163	28	160	28
'35	512	115	22	123	24
'36	478	132	28	122	26
'37	414	111	27	112	27
'38	466	103	22	99	21
'39	526	132	25	139	26
'40	590	140	24	135	23
'41	551	118	21	143	26
'42	615	157	25	137	22
'43	541	123	23	127	24

trical Engineering Section of the National Research Council, Ottawa, Ontario, Canada. He had received his B.A. in mechanical engineering in 1937 from the University of Louvain, Belgium, and his degree in electrical engineering from the same university in 1938, prior to earning his masters at M.I.T. in 1939.

As predicted last month, a fine newsy Christmas letter arrived from **Frederick A. Cooke, XV**. First, let me correct the address given last month, for I mis-read the address change notice sent by the Alumni Office: Villa Primavera, Prinse-vinkenpark 14, Den Haag, Nederland. And if any thirty-niners are traveling in Holland, the Cookes' welcome mat is out. Just phone: 111134. Having retired last January from active duty in the Navy Civil Engineer Corps, Fred is now with the international consulting engineering firm of Frederic R. Harris (Holland) N. V., as Industrial Products Manager. He and Eugenia and the five children look forward to two or more years in Europe. Now that Fred has joined **Hal Seykota** overseas, they have the nucleus of an M.I.T. Club of 1939! Along with the Cooke's full-page mimeographed letter was a photo-card showing the whole family of Fred, Eugenia, Kathleen, Lucy, Gina, Laurie, and Freddy, with three real windmills in the background. (I'll make a copy of the Cooke's letter to anyone requesting it. The price: some class news of yourself or any other thirty-niner.)—**Oswald Stewart**, Secretary, 3395 Green Meadow Circle, Bethlehem, Pa. 18017

san Associates, Louisville, Ky. Dick has spent 22 years as a consultant and also served with the Methods Engineering Council and was executive vice-president of the Serge Birn Company. He has developed a system of office and clerical work measurement known as Master Clerical Data and is the co-author of "Measurement and Control of Office Cost," "Master Standard Data" and "The Economic Approach to Work Measurement."

As a final item, **Les Lees**, who is Professor of aeronautics at the Firestone Flight Sciences Laboratory at the California Institute of Technology, is the co-author of an article on the "Theory of Laminar Near Wake of Blunt Bodies in Hypersonic Flow" in the November, 1965, issue of *AIAA Journal*.—**Alvin Guttg**, Secretary, Cushman, Darby & Cushman, American Security Building, Washington, D. C. 20005.

## '41

Your 25th Reunion Committee is working hard and successfully to make the necessary program arrangements and reservations to insure for you an outstandingly comfortable and interesting Reunion which will be held on the M.I.T. campus Thursday, June 9, through Sunday, June 12. Reunion Committee Chairman, **John Macleod** is strongly encouraging attendance by the entire family. Both the program and housing are being arranged to accommodate not only classmates and their spouses, but also their children. While the parents will live at Baker House, the children will be housed in separate dormitories according to age groups under guidance of trained counselors. The objective is to free both children and parents from each other so that each may be assured of maximum enjoyment of the Reunion. Program Chairman **Nat Sage** assures us that there will be some exceedingly interesting tours and do-it-yourself science demonstrations for the children. These will be programmed according to age groups and areas of interest. With the availability of the vast resources of the Institute, a most exciting experience for the children is assured. There will be available an introduction to the use of high speed computers, and two

training computers capable of playing three dimensional "Tick-Tack-Toe" and "Chess" respectively. Professor Edgerton has promised a treat of Jacques Cousteau's latest underwater film. You will remember Jacques Cousteau as the inventor of the aqualung and the man who pioneered a community living underwater for six months. Professor Klaus Liepmann is, by personal letter to those children expecting to attend the Reunion, recruiting talent to form a chorus and orchestra with the possibility of staging a "Beatle" show. There will also be a boat trip about Historic Boston Harbor on Saturday afternoon. In addition, Athletic Games Chairman, **John Sexton**, has a full program of on campus sporting activities for the children, including a father versus son ball game. The adults' program begins on Thursday with registration and informal get-together planned by Attendance Chairman **Mike Driscoll**. Friday, Saturday and Sunday will be filled with a combination of receptions, including that of the President's Reception, a shore dinner at the famous Pier 4, a special Family Dinner, demonstrations and tours showing the latest in science and equipment at the Institute, with cocktails, dining and dancing in the evenings. While the Reunion ends on Sunday evening, it is hoped you will all stay for the Alumni Day program on Monday, your living accommodations being provided through breakfast on Tuesday morning.

You will be happy to know that advance polling of the class by Attendance Chairman, **Mike Driscoll**, carries assurance of a record turnout at the Reunion. Those replying as of January 14th who plan to attend are as follows: **Zachary P. Abuza**, Ohio; **Everett R. Acherson**, Mass.; **Herman A. Affel, Jr.**, Pa.; **Robert M. Alfred**, Mass.; **Johan M. Anderson**, Mass.; **Henry Avery**, Pa.; **Stanley Backer**, Mass.; **Robert E. Bailey**, Conn.; **William L. Babcock**, La.; **William J. Baldwin**, Pa.; **Edward A. Beaupre**, R.I.; **Henry G. Bartlett**, Florida; **Albert L. Bensusan**, R.I.; **J. Melvin Biggs**, Mass.; **R. Wallace Blake**, Paris; **Robert W. Blake**, Va.; **Joseph E. Bluhm**, Mass.; **Roger G. Blum**, N.Y.; **George B. Boettner**, N.Y.; **Joseph S. Bowman**, Colo.; **John H. Brannan**, Tenn.; **Charles B. Britt**, N.C.; **Ivor W. Collins**, Mass.; **Leon Crane**, Pa.; **Ralph B. Deland, Jr.**, N.Y.; **Robert J. DeMartini**, Conn.; **Joseph E. Dietzgen, III**; **Michael Driscoll**, Mass.; **Robert S. Edwards**, N.Y.; **Martin L. Ernst**, Mass.; **Leo E. Farr**, N.Y.; **Rogers B. Finch**, Conn.; **Victor G. Frozley**, Conn.; **William J. Fox**, Md.; **Lewis D. Fyske**, Mich.; **Arthur Gingrande**, Mass.; **Lester W. Gott**, Conn.; **Richard H. Gould**, Mass.; **Glen A. Guernsey**, Mass.; **Charles W. Hargens**, Pa.; **Raymond D. Harper**, Calif.; **Luke S. Hayden**, Mass.; **Harry J. Heimer**, Calif.; **George Hite**, Mass.; **William K. Hooper**, Conn.; **David W. Howard**, Mass.; **Erling H. Hustvedt**, Va.; **Lewis T. Jester**, N.Y.; **Frank L. Johnson**, Md.; **Paul J. Joyce**, Mass.; **Leonard Katz**, Mass.; **Louis A. King**, Mass.; **Stephen H. Kinney**, N.M.; **Herbert D. Klein**, Mass.; **Walter J. Kreske**, Mass.; **Col. Wm. G. Kussmaul**, Md.; **Richard A. Lazarus**, Calif.; **Ernest L. Little, Jr.**, Dela.; **David S. McNally**, Ill.; **John H.**

## '40

In the 25 years since we have left Tech, it has been my custom as Secretary for Course V to send a Christmas card to all of the members of the Course from the Course, and also to send cards to the surviving relatives of deceased members. In response to these Christmas cards this year, I received a card from **Curt Teich, Sr.**, the father of **Larry Teich**, who was a member of our class and who died in 1942 in combat. On his card there was a note that the **Curt Teich Foundation** of Chicago, Ill., has arranged a scholarship at Tech in memory of **Larry**. This is indeed a fitting tribute to a nice guy. . . . **Richard Crossan** is the founder of a new management consultant firm, **R. M. Cros-**

Macleod, Mass.; Eugene A. March, Pa.; Mitchell J. Marcus, Mass.; Edward R. Marden, Mass.; Stanley Marple, Jr., N.Y.; James W. Mar, Mass.; Robert W. Mayer, Mass.; Warren J. Meyers, Ill.; E. Kirkbride Miller, Md.; A. Hoadley Mitchell, Alberta, Can.; Carl M. Mueller, N.J.; Clifford E. Moffet, Calif.; Willard S. Mott, Pa.; John W. Mullen, N.Y.; John B. Murdock, Pa.; Joseph H. Myers, Conn.; William F. Orr, N.C.; Nathan R. Owen, N.Y.; Robert T. Parry, Mass.; John Pecevich, Mass.; Charles F. Peck, Ill.; Franklyn W. Phillips, Mass.; Henry L. Pondorf, Calif.; Joseph S. Quill, Mass.; George F. Quinn, Md.; Nathaniel Rochester, N.Y.; Thayer Rudd, Ill.; Laurence P. Russe, Mo.; Theodore S. Saad, Mass.; Nathaniel M. Sage, Mass.; Howard J. Samuels, N.Y.; John P. Sanderson, Mass.; William L. Schubert, Pa.; Max Schweinschaut, Jr., Mass.; Carl Schwenfeier, Ohio; Norman I. Shapira, Va.; Benjamin C. Scott, Jr., Texas; Murray M. Scott, Mass.; Robert E. Smith, Pa.; H. Kenneth Spaulding, N.J.; Irving Stein, Mass.; Clarence E. Stevens, Jr., Conn.; Carlton M. Stewart, Pa.; John J. Symons, Mich.; Walter Turansky, Conn.; Lawrence T. Turnock, Jr., Ohio; Charles A. Wales, Jr., N.Y.; Teddy F. Walkowicz, N.Y.; John F. Wallace, Ohio; Frederic W. Watriss, Mass.; D. Reid Weedon, Mass.; Herbert P. Williams, N.J.; Robert S. Williams, Colo.; Leona N. Zarsky.

Undecided were Milton A. Abel, Calif.; Frederick C. Came, England; James C.

## 25th Reunion

Cullison, Calif.; Leonard J. Dine, Ill.; Harry Faul, Texas; Irving J. Foote, Ohio; Bertram R. Harper, Vt.; Rudolph W. Hensel, Tenn.; William E. Lifson, N.J.; Harry C. Lord, Jr., N.J.; Arthur L. Lowell, Calif.; Arnold S. Mengel, Calif.; Charles W. Sauer, Calif.; Donald D. Scarff, Ohio; William B. Sheard, Ohio; Samuel L. Solar, Calif.; Marjorie Quinlan Swift, Mass.; I. Warner Knight, Calif.; Peter H. Smolka, Va. Most of those coming are bringing their wives. There are 118 classmates coming with 95 wives and 99 children (ages 1 to 22 yrs.) as of January 14, with 19 undecided.

Among other items in the news: **Carl M. Mueller** has been elected to the Board of Directors of Cabot Corporation, Boston, Mass. Carl is a general partner of Carl M. Loeb, Rhoades and Company. He resides with his wife and five children in Ridgewood, N.J. . . . **John E. Steiner** has been presented the 1965 Elmer A. Sperry Award for his role in the concept, design, development and production of high-performance subsonic aircraft transports. . . . **Burnham Kelly** was a speaker on the topic "Architecture: The Fabric of Cities" at the 20th Annual Forum of the Pennsylvania Society of Architects at the Hotel Hershey, Hershey, Pa. Burnham received an M.A. in city planning from M.I.T. and after serving in World War II divided his time between housing research and teaching at M.I.T. In 1960 he was named dean of the College of Architecture, Cornell University. His publications include "The Prefabrication

of Houses" and "Design and Production of Houses."

**Alvin H. Hartman** has been elected a director of the Narragansett Capital Corporation, Providence, R.I., a small business investment company. He shall continue to be Vice-president of the company. He is also president of the Northeastern Regional Association of SBICs and a member of the Board of Governors and the Executive Committee of the trade association for the SBIC industry.

**Norman C. Michels** has been made Executive Vice-president and general manager of Lee Wilson Engineering Company, Inc., Cleveland, Ohio, manufacturer of annealing furnaces and machinery for steel mills. Prior to joining Lee Wilson, Norman was associated with U.S. Steel Corporation as Vice-president—long range facility planning in the Pittsburgh headquarters. Before that, he was vice-president—engineering at Tennessee Coal and Iron Division in Birmingham, Ala. He was president of the Association of Iron and Steel Engineers in 1964 and is a member of American Iron and Steel Institute, Engineering Society of Western Pennsylvania.

**Henry C. Anderson**, manager of High Voltage Transmission Systems Sales Operation with General Electric in Schenectady, N.Y., has attended and completed General Electric's Advanced Marketing Management Seminar at Crotonville, N.Y. . . . We have been asked to mention the 18th Annual M.I.T. Fiesta in Mexico, March 10-12, 1966, which will be attended by Dr. and Mrs. Julius A. Stratton and Mr. and Mrs. Donald Severance. For Reservations contact Mr. Armando Santacruz B., Fiesta Chairman, M.I.T. Club of Mexico City, Reforma 116-804, Mexico 6, D.F., Mexico.—**Walter J. Kreske**, Secretary, 53 State Street, Boston, Mass.; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh, Pa.; **Everett R. Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree, Mass.

## '44

Last month I said that my task of writing notes for the February issue was quite easy because Class President **John L. Hull**, P.O. Box 137, Ivyland, Pa., and **Paul M. Heilman**, 30 Ellery Lane, Westport, Conn., had responded so readily to my request for news of their trips to Europe and South America, respectively. For this month I said I would attempt to get reports from the other officers. I reached Treasurer **Malcolm G. Kispert** by telephone at his home at 5 Sterling Drive, Dover, Mass. He advised me that we have several hundred dollars in the class treasury and said he would send me more detailed information. Hopefully, we'll have full information together with general news from Mal in time for next month. I have not tried to contact the other officers directly as yet but at least I have reviewed the roster. Vice-president **Langdon S. Flowers** still lives at 819 Blackshear Street, Thomasville, Ga. You have received mailings this year from **Norman I. Sebell**, 41 Hancock Street, Lexington,

Mass., so you know that he continues as class agent and is now reunion gifts chairman. The latest edition (received in January) of the annual Alumni Association Directory (not the Register which was last published in 1961) lists **F. Scott Carpenter, Jr.**, now of 23 Oak Ridge Drive, Decatur, Ill. 62521, as a member of the Class Reunions Committee of the Association but there is no reunion chairman shown for our class. The directory shows **Peter L. Quattrochi**, 90 Red Chimney Drive, Warwick, R.I., as our class representative on the Alumni Council which meets monthly in Cambridge. . . . From February 21 until June 24 I shall be assigned to the Air Force Institute of Technology at Wright Patterson Air Force Base in Dayton, Ohio, for basic and advanced courses in cost and economic analysis. I have just arranged for **Dr. John G. (Jack) Barmby**, XVI, to serve as an assistant secretary at least for that period of time. Arrangements will be made to have telephone calls redirected to him while I am assigned to Dayton particularly if such calls originate locally. Jack will also write the column on an alternate basis and will try to contact **Lewis Tyree** and other classmates on his frequent trips to Chicago. Jack's full address and telephone numbers appear at the end of this column. We are both looking for those newsy post cards or letters or those invitations to make collect telephone calls (see the January notes). For the remainder of this publication year some of the calls may come from Dayton rather than Springfield, Va.

Here is the news which I have gleaned from clippings, phone calls, and Christmas greetings. From a phone call to the office of **Edward W. Cochran**, 760 Preston Road, Hagerstown, Md., on a return trip from my home town of Greensburg, Pa., I learned that Ed is now president and treasurer of the family insurance firm of J. Edward Cochran Co., to which Ed returned after working for several years as an aeronautical engineer for the Martin Co., in Baltimore. Ed and his wife Jane had their first child, Eddie, Jr., in March 1946 after Ed and others including myself had come back to complete the work for the bachelor's degree. Eddie, Jr., who will be 20 this month, is presently studying engineering at Lehigh University. There are two other children, Robert, 16, and Susan, 13. . . . Another member of the group which went back to Tech after World War II to complete the work for their degrees was **Richard J. Kulda**, 10845 Meads Avenue, Orange, Calif., 92667 (see the January notes). My wife China and I were delighted to receive a copy of the Kuldas' Christmas letter to family and friends. I should say at the outset that Dick and his wife, Mary Ellen, have seven children ranging from Greg, 14, to Gail, 2. I think that equals the record for number of children of any member of our class. The author of the letter, presumably Dick, states that Mary Ellen had been very ill with a series of sicknesses which began Thanksgiving Day 1964 and lasted for over four months. However, by April 1965 she was fully recovered. Dick then describes their "adventure-filled vacation at Grand Canyon (North and South rims),

Bryce Canyon, and Zion Canyon" by cataloging the thrills. For instance, "a flat tire in the desert between Indio and Blythe with the temperature in the vicinity of 120° and no sign of civilization as far as the eye could see (visibility was unlimited)," or "Greg, 14, Mary Clair, 12, and Peter, 9, venturing out to the most fearful rocky points and teetering rocks with straight drops of 1000 feet or more." He describes a hike to the bottom of Bryce Canyon (all nine of us) along the fenceless, zig-zag trails up and down sheer cliffs. At least half of the journey along the faces of the cliffs was made with Rob, 5, and Dan, 3, not looking where they were going. We now know for sure that Mary Ellen, who was the rear guard, has an indestructible heart! Here's one that's a scoop: "We watched the flash flood come in the Virgin River in Zion Canyon. This was the flood that trapped 20 hikers in 'the marrows.' For several days the park authorities feared the hikers had been drowned. 'The marrows' is a portion of the canyon about 30 feet wide with sheer walls that rise perfectly vertically for over 1000 feet. Several hikers drowned there in the last flash flood four years ago. As we stood by the river, it rose from a depth of two feet to eight feet in about 90 seconds as tons of debris that had collected for four years roared past. The debris included logs two feet in diameter and 40 feet long. We could hear the boulders colliding at the bottom." The final "thrill" which Dick lists as making their vacation so exciting was a series of "magnificent thunderstorms every night. The kids got a special thrill from these because we don't have them where we live, and we camped in tents for the entire trip." (Dick, have you ever thought of writing scripts for the Munsters on TV?) Dick notes that the biggest disappointment of the trip was discovering that the Navajos now have pick-up trucks instead of horses. Most of them still live in mud huts, though. And here is what goes on at the Kulda home-stead: "We had our usual epidemics of sickness with the kids. No broken bones this year but Gail, two, fell and cut her face under the right eye. Two or three stitches closed it up. By the end of the summer we accumulated underground forts, treetop forts (60 feet up), and forts on stilts—preparations for all kinds of attacks by all kinds of kids—but mostly used as sources of conflicting ownership claims." I said that Dick appeared to be the author, but the following sentence sheds some doubt. "Dick gets fatter, bald-der, and grumpier each year as his war against gophers continues unabated." (Dick, I can't understand why you would allow Mary Ellen to get sick).

A few days ago I phoned **Will B. Rodemann**, 406 Tulane Drive, Alexandria, Va., 22307. He has a most unusual telephone listing which some of the rest of us might want to copy. Beneath Will's listing there is an entry which simply says "Children" and another telephone number. I called the first number and got his daughter, Bede, on the line. (I subsequently learned that she is 13.) I asked Bede about that second telephone listing and she explained that her father spent a good deal of time on the telephone in connection with his

business so the children needed their own telephone. Later I talked with Will and asked him the same question, but I didn't get the same answer. Seems that father feels that three Rodemann children spend a lot of time on the phone so that the parents need a telephone of their own. Will sounded downright surprised to learn that his daughter saw it differently. "I guess it's all in one's point of view," he said. It may be that Bede is not too far from the mark. Will does a lot of traveling for the computer division of General Electric. Furthermore he is still active in Swiftwater Industries, a plastics company which he started in Cleveland, Ohio in 1958. Will told me that he corresponds with **Holton E. Harris, VI**, 5 Newtown Turnpike, Westport, Conn. Will and Holton were roommates in graduate school at Tech where they both got their S.M. in Course VI. Both started their own companies in the same year (1958), Holton in New York and Will in Cleveland. Holton's company is Harrel, Inc., which manufactures transistorized temperature controllers. From the Alumni Association this month we have a few clippings and a press release. A brief note in the Champaign-Urbana (Ill.) Courier of December 3 reports that **Lawrence E. Dowd**, X, P.O. Box 208, Tuscola, Ill., now customer service group leader in the polymer service laboratory of the U. S. Industrial Chemicals Company plant near Tuscola, has been appointed to the M.I.T. Educational Council, Larry joins a very sizeable group of '44 men engaged in this great work and he fills a void since there are no other counsellors in the Decatur-Tuscola area. Incidentally, Larry, Happy Birthday on March 25. Now how about a letter comparing the mid-west with your native Massachusetts and telling us something of your work and family. . . . The Educational Council also gets notice in a press release of December 10 from Rex Chainbelt, Inc., Milwaukee, which announces that **Warren J. Harwick II**, formerly of General Electric, Schenectady, N. Y., has been appointed manager of research and development for Rex Chainbelt where he will guide further development of the company's line of industrial components, construction machinery products, materials handling equipment, and water purification equipment. Immediately prior to joining the Milwaukee firm, Warren was manager of mechanical equipment engineering at the advanced technology laboratories of G.E. He has also had engineering experience at the Budd Company and at the Nice Ball Bearing Company, both of Philadelphia. Educational Councilors should find it easy to get off an occasional note to the Class Secretary. How about, Larry and Warren?

The Boston Globe on December 6 published a three-column picture with the caption "President **Martin Annis**" and an article headlined "Cambridge Firm Cramming for Big Education Market." The firm is seven-year-old American Science and Engineering Company. According to the Globe article it was A.S.E. scientists who discovered X-ray stars a few years ago. They also developed a camera for the first good X-ray pictures of the sun and cur-

rently they are busy readying X-ray experimental equipment for the Apollo spacecraft. In the last fiscal year, A.S.E. posted sales of a healthy \$4.3 million. About 70 percent of the business was in space projects and 25 percent was for the Department of Defense. Only about five percent of the current business is in education, mainly from products developed and manufactured for Educational Services, Inc. Soon, however, A.S.E. will be making a new push into the educational market by combining efforts with one of the nation's top text book publishers, Martin, who got his S.B. with us and stayed to get his Ph.D., told the Globe reporter: "We have developed a whole system of education in which students participate—not teaching machines—living things and plants. Elementary biology, really." The company's five year plan projects sales of \$23 million, half of which will be in the education market. I'm sure we'll want to learn more about this particular venture which we are pleased to see one of our classmates leading. . . . That's all for this month. The May due-date will be upon us a few days after you receive this issue of the Review so pick up the phone or reach for your writing equipment right now so that we can tell your fellow classmates in the May issue that we heard from you.—**Paul M. Robinson, Jr.**, Secretary, 7710 Jansen Drive, Springfield, Va., 22150, telephone 703-451-8580 (res.); **John G. Barmby**, Assistant Secretary, 924 Fairway Drive NE, Vienna, Va., 22180, telephone 202-296-1610 (IIT Research) or 703-938-0434 (res.).

## '46

The steam pressure is building up. Registration material will be going out soon for our 20th reunion at the Provincetown Inn, June 10-12, 1966. It will contain a description of the Inn, some travel tips and data on Alumni Day (Monday, June 13 at M.I.T.) as well as the registration form. The committee would appreciate your returning your registrations as early as possible. These "invitations" will go to all who expressed interest in the reunion on last Spring's postcard. If you are now interested in going, but didn't say so then, be sure to drop a note to **Bob Striker**, 31 Anchorage Road, Port Washington, N.Y., and he'll send an invitation right out to you. We wish to thank **John** and **Betty Ann High**, **Priscilla** and **Ned Tebbetts**, **Jeanne** and **Herb Hansell**, **Bob** and **Marianne Nelson**, **Nancy** and **John Taylor**, **Lynne** and **Ed Richardson** and **Ken Hauser** for their Christmas cards. The Taylors are looking forward to the reunion. Bob Nelson reports that he recently completed his yearly Navy training duty, this time as a Commander. Last summer the Nelsons spent a week at the A.M.C.'s Echo Lake camp in Maine. On the way up there they stopped to visit the Hoags, and Bob was quite impressed with Dave's new all-weather tennis court. The Highs included in their card a very interesting newspaper clipping describing John's current assignment. Commander

John High is head of the Naval Missile Center's Astronautics Directorate at Point Mugu, Calif. After M.I.T. John joined a pilotless aircraft unit at Point Mugu. After a short DE tour of duty John attended electronics and post graduate schools at Annapolis, Monterey, and he picked up another B.S. and an M.S. at M.I.T. He has been involved in the Terrier-Tarrier and Polaris programs, both as a sea-going officer and in land based development assignments. He expects to remain in his present assignment for two more years. He is also active in Toastmaster's International, RESA, and he serves as a Lay Reader in the Diocese of Los Angeles. The Highs and their two daughters live at 1204 Rigel Drive, Point Mugu, Calif. 93041.

Dr. Douglas W. Erickson is associate director of the Memorial Cancer Foundation of Santa Barbara, Calif. This facility provides centralized radio and nuclear therapy for doctors and hospitals in the Santa Barbara area. After receiving his B.S. in electrical engineering from M.I.T. Doug earned his doctorate from the University of Michigan, and did his residency training in Oregon and Michigan. . . . **Edward J. Bacon** has recently been elected vice-president of Booz, Allen Applied Research Inc. . . . Professor **Walter A. Backofen** was named a winner of the 1965 American Society for Metal's Henry Marion Howe Medal. Walt received his B.S. in 1946, his Sc.D. in 1950, and was appointed assistant professor in 1950, associate professor in 1957 and full professor in 1962, all at M.I.T. He was honored by ASM in 1959 when he received the ASM Bradley Stoughton Award for Young Teachers of Metallurgy. . . . **James S. Murphy**, program manager at Douglas Aircraft Company for Maneuvering Re-Entry Systems, Advance Offense and Re-Entry Systems, has had his paper "Extensions of the Falkner-Skan Similar Solutions to Flows with Surface Curvature" published in the November 1965 issue of the AIAA Journal.—**John A. Maynard**, Secretary, 25 Pheasant Lane, North Oak, St. Paul, Minn. 55110.

'48

One of the nicer things about the holiday season is that we receive cards and notes of greetings from our friends bringing us up-to-date on family news and happenings during the past year. So here we are writing these notes on a balmy, sunny day in January (praying for snow to go skiing) trusting all of you had a very happy holiday and sincerely thanking those of you who so kindly took a moment to drop us a line with our cards. Of course, cards and letters are most welcome any time of the year, and we are always eager and happy to receive them.

One of the pleasant surprises was the card from Vic and Marguerite Dawson (II) which included the birth announcement of their fifth daughter, Regina Anne on November 7, 1965. Our happiest congratulations to them! The rest of their "all-girl team" are named Shelley, Jeanie,

Celeste and Maria. As many of you may know, Vic went on to take master's degrees at both Cal Tech and Harvard and in 1963 received his Ph.D. from the University of Maryland. In addition to his full time job at the Naval Ordnance Laboratory, Vic and three of his associates have their own consulting practice, called Engineering Science Associates, Inc., in Chevy Chase, Md. Vic and his family make their home at 9406 Curran Road, Silver Spring, Md. . . . Another bit of news was the card from Warren and Ann Johnson (II). Warren left Aero-Jet General in California and "started August 31 with North American Aviation working in the labs test operations for Apollo G.S.E." Best wishes for every success in your new location, Warren! After leaving Tech, Warren took a B.S. in civil engineering at Syracuse and worked for a few years with the Maine Highway Dept. before being called back to active duty as a 1st Lt. with the Army during the Korean war where he trained and specialized in guided missiles. On discharge, he went with Convair in Ft. Worth, Texas and worked on the structural analysis of the B-58 and other materials problems for seven years before going with Aero-Jet in 1960. Warren and Ann have four children: Doug, 14; Barbara, 12; Bethy, 8; and Doris, 6. Their new address is 5853 South Hudson Place, Tulsa, Okla. 74135. . . . Our former assistant secretary **Harry Jones (II)**, his wife Ann and son Craig, 2½, have moved out of their Ft. Lee apartment and into their own home in Ridgewood, N. J. (new address: 914 Roslyn Road, Zip 07450). At the December 7 meeting of the North Jersey M.I.T. Club, Harry said he had left Mack Trucks and was now doing consulting in marketing research. Our fond best wishes to him and Ann in their new home and his new work.

If work pressures are such that you never seem to have a moment to drop us secretaries a line, why not commission your wives to do so. Many a precedent has already been set. One such was a much appreciated wifely note enclosed with the Christmas card from Joe and Dolores Restivo (XIX, SB & SM). Dolores wrote, "We have been busy this year. Sold our house in June, needed more space, and are leasing until June when we plan to build again. Our David is 2½ and a real devil. Debbie is 13, in second year of junior high and is a real brain; Cindy is 10, in 5th grade and doesn't give a darn. Joe still travels some and is still in Scientific Services (Ed.: He's a consulting meteorologist with the USAF at Ent AFB in Colorado Springs)." Their new address is 2125 McArthur, Colorado Springs, Colo. 80909.

Many of you will recall that after leaving Tech two of our class took the "call of the church" and became ministers. One such is the Rev. **George Swallow (XIII-C)** who is now an Episcopalian vicar in New Orleans. He wrote a most interesting letter, and with your permission, I would like to repeat some of it here for you to enjoy as well. ". . . The most exciting event last year took place while my 1964 letter was being mimeographed, and so did not get in. I had had a parolee living with me in the summer and fall of 1964,

from Raiford, the Florida penitentiary, where he had served two out of five years for bad checks. He was not in my custody; I was merely trying to look out for him. He settled down quite well, getting a job right away as a draftsman earning good money; from the first he paid his share of the household expenses. When he first came, he was a tremendous liar, but he soon stopped because I never challenged even the most obvious falsehoods, nor ever believed them. I became quite optimistic about John. He had been in and out of institutions for 15 years, since he was 17; it seemed to me that this time he might stay out—and then, the police came for him one night. It seems, despite appearances, that he had written a few more bad checks—for fun, not because he needed the money. Unfortunately, he avoided the police and fled, and is still 'paper-hanging,' as writing bad checks is known to the 'trade.' Since he has a Louisiana (driver's) license at this address, I hear of him occasionally, from credit bureaus in cities where he has passed checks.

"I continue to serve St. Luke's, the West Indian parish here in New Orleans, and one of two negro churches in the state. It's very interesting; they are a fascinating people. One of the couples, professional people, she being a college professor, was telling me about their visits to some of the famous places, especially restaurants, in New Orleans. Having lived there 20 years, they are just now getting to see these places about which they have heard so much. . . . We built a Parish Hall this summer to replace one burned under mysterious circumstances two years ago, and air conditioned both it and the Church building.

"I finished at Newman in June, having enrolled as a graduate student in history at LSU in New Orleans for the present year. At the end of summer school, I planned two weeks vacation from the Church in order to visit the folks in Florida. . . . It was neither a vacation nor a rest, for my niece was killed, at 16, in an automobile accident just before I left. I got to Florida in time to inter the ashes . . . the doctors said that she could not recover and be normal (head injuries), so death seemed a blessing. It seemed fortunate that she had been with her mother and friends of the family when it happened, and not with a group of 'teenagers.' Her mother was not seriously injured, although the driver's wife was. Because of the family crisis, I did not visit any of my friends as planned. I stayed only for a few, trying, emotion-packed days, and then returned home just in time for hurricane Betsy. . . . After the hurricane, the fall was prosaic . . . (although) I had a bad automobile accident September 30. A car ran a stop sign . . . (and) his insurance company . . . settled to the tune of \$500 repairs and \$200 for a rental car (while) mine was being repaired.

"Since then, all has gone well. Between being a full-time graduate student and rector of a church, I keep busy, but still I live a more relaxed life than I have for quite a few years. It's rather pleasant." Many thanks, George, for your most welcome letter. Our deepest sympathy to you

## Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	No. Active	1/31/65		1/31/66	
		No. Contribs	%	No. Contribs	%
'44	805	199	25	180	22
'45	355	89	25	64	18
'46	528	134	25	140	27
'47	714	149	21	138	19
'48	1152	259	23	308	27
'49	831	201	24	210	25
'50	1102	273	25	281	25
'51	990	225	23	245	25
'52	870	196	23	204	23
'53	729	139	19	157	22

and your family on the tragic loss of your niece, but we are pleased to know that you weren't seriously hurt in your accident a little over a month later. For those of you who would like to write George, his address is: The Rev'd George Swallow, 2008 Milan Street, New Orleans, La. 70115.

Many of us '48ers were formerly in the Class of 6-'45, nee '46, whose members, because of wartime military service, are now scattered throughout the classes of '45 through '51 or '52. However, we like to keep in contact with as many of our old buddies as possible. Thus, we will include news of such persons in these notes even though they may be officially listed in another class. One such is **Art Miller**, '45, VIII, with whom we had a very delightful visit the Monday after Christmas. For the past couple of years Art has been at the Sloan Physics Lab at Yale engaged in analyzing and programming research data for computer analysis. Before going to Yale, Art was at Livermore engaged in instrumentation and analysis of nuclear test data including participation in the last Eniwetok tests. While at Livermore, Art took his M.S. in physics at Calif.—Berkeley. His address is: Arthur E. Miller, 107 Cottage St., New Haven, Conn. . . . Another former classmate is **Francis (Brud) Marran**, '49, XIII, who also has been in touch over the years. Brud is vice-president of W. R. Marran's Sons, Inc. He, Marjorie and the children live at 220 Bay Ave., Patchogue, N.Y. 11772.

**Tom Dunn**, II, has been named New York district manager for Diamond Power Specialty Corporation, a subsidiary of Babcock & Wilcox Company. Tom has been an industrial engineer in B & W's boiler division sales office in N.Y. In his new post, he will be in charge of Diamond's New York stationary and marine sales and marine warehouse. He's been with B & W ever since graduation when he started in as a field service engineer. Tom and his wife, the former Justine Hope, live at 150 Stonybrook Rd., Fairfield, Conn., with their four children, Rosemary, 10; Tommy, 8; Billy, 6; and Justine, 3. . . . An article in last October's issue of *Rochester Engineer* was authored by **Bill Habbleb**, IX-B, who is now professor and head of the Mechanical Department, College of Applied Science, Rochester Institute of Technology. After leaving Tech, Bill took his master's degree from the University of Rochester and his

doctorate from Cornell. He was also a member of the engineering faculty at the U of R and Cornell for several years. . . .

**Al Kelley**, VI, deputy director, NASA Electronics Research Center in Cambridge, was the guest speaker at the Westwood (Mass.) Lions Club last November.

**Jack Page**, II, has been elected a vice-president of Booz, Allen and Hamilton, Inc., nationwide management consultants. He is based in the firm's Chicago offices. Jack has worked primarily in the fields of diversification, mergers and acquisitions, and new product studies. Prior to joining B.A.&H. five years ago, he was president of Production Lapping Company of Pasadena, Calif., vice-president of Abrading Systems Company of Skokie, Ill., and held positions with Morris Paper Mills and Ekco Products Co. . . . **Ted Pian**, XVI, was co-author of a very mathematical article in the November issue of the *AIAA Journal* entitled "Application of Matrix Displacement Method to Linear Elastic Analysis of Shells of Revolution." From the illustration accompanying the article, one may assume that the analysis is part of the mathematical research inherent in the planning and design of the capsule and Lunar Excursion Module of the Apollo program. Ted, who got his doctorate with our class and his master's with the class of '44, is now an associate professor of aeronautics and astronautics at the Institute.

**Maurice Rifkin**, VI, has been named associate head of the MITRE Corporation's National System Analysis Department located in Arlington, Va. As many of you may know, MITRE is an independent systems engineering corporation formed in 1958, with the help of M.I.T., to provide technical advice and support to such government agencies as the Electronic Systems Division of the Air Force Systems Command; it also serves the Department of Defense and the Federal Aviation Agency. Maurice has been with MITRE since 1959 after having previously been with General Precision Laboratory, Pleasantville, N.Y., for seven years. After leaving Tech, he went on to Columbia, receiving his M.S. in industrial engineering in 1953. While at Columbia, he was associated with Sperry Gyroscope Company and Bendix Aviation Corporation before going to GPL in 1952. He lives with his wife and four children at Stoneleigh Court, Fairfax, Va.

Now is the time to live up to your New Year's resolutions by dropping us a card or letter, as you have been promising to do, about any recent moves, changes in job, new-born children, papers written, lectures given, degrees won, or any other news that would be of interest to your old buddies.—**John T. Reid**, Assistant Secretary, 22 West Bryant Avenue, Springfield, N.J. 07081; **Robert R. Mott**, Secretary, Kent School, Kent, Conn. 06757; **Richard V. Baum**, Assistant Secretary, 1718 East Rancho Drive, Phoenix, Ariz. 85016.

## '49

I am looking at a photograph made from the air of one of the most unusual homes in this country (my own assessment). It is in Lincoln, Mass. and provides shelter for **Tom McNulty** and his wife, both of whom are architects and did the design. The house is a 150-foot abstract of curving walls and spaces with no interior doors, only flowing areas of varying widths. Made of light-colored concrete, the home looks like a series of wind-tunnels butted together. . . . Proctor Wetherill, '34, has kindly sent a Polaroid shot in which he is shown inducting **Dick Alexander** into the presidency of the Philadelphia Society of Paint Technology. Dick is technical director of Arvon Paint Company, Philadelphia, Pa. . . . **Lennie Newton** has been promoted to be vice-president of Opinion Research Corporation. He carries responsibility for major corporate accounts. . . . **David Esson** has been appointed Technologist at the Napoleon, Ohio, plant of the Campbell Soup Company. Dave has been with Campbell since graduation. Prior to his promotion, he was located variously in Camden, N.J., and King's Lynn, England. . . . **Bernard Steinberg** has been named a Fellow in the Institute of Electrical and Electronics Engineers. In conferring the honor, Bernard M. Oliver, President of IEEE, cited him "For contributions toward advancing the theory of radar, sonar, and communication systems, and for reducing advanced theories to practical forms for engineering applications." In addition to major inventions in the field of electronics, Bernard has to his credit membership in the Society of Industrial and Applied Mathematics, the American Geophysical Union, and the Acoustical Society of America. In addition, he has presented and published many technical papers, participated in a number of military planning study groups and is a contributing author to a book on radar published last year. With his wife, Jacqueline, and four children he lives in Wyndmoor, Pa.

**Dr. Charles Storrs** has been appointed by the Combustion Engineering Company, Windsor, Conn., to direct that company's heavy water organic cooled reactor program. The program looks to the large-scale production of electricity and heat for sea water desalting. . . . The National Aeronautics and Space Administration appointed **William Schneider** as Deputy Director, Mission Operations,

and Gemini Mission Director. This was back in October. Thus Bill deserves much credit for the historic Gemini 6 launch. . . . Once again I am the wistful recipient of an invitation from the M.I.T. Club of Mexico City to attend their Fiesta March 10 through 12. Dr. Stratton and Don Severance will be there. This is a really large and well-organized affair. For a red carpet welcome, write to Mr. Armando Santacruz B., Fiesta Chairman, M.I.T. Club of Mexico City, Reforma 116-804—Mexico 6, D.F., Mexico. . . . **John Kuntz** has been named Director of Central Research and Development for Genesco, Inc., manufacturer and retailer of apparel and footwear. Until his present appointment, John had been Executive Vice-President—Merchandise for Genesco's Formwear Marketing Company.

Herewith are more gleanings from that endless source of information, the 15th Reunion questionnaires. **Frank Darcy** lives in Liverpool, N.Y., with wife Jan. He is a branch manager for ITT Cannon Electric, Inc. Frank has held only two jobs since graduation but has moved eight times. He doesn't list any children in the questionnaire but states that he would send them to M.I.T. provided they were qualified. . . . **Dick Cotton** lives in Waban, Mass., with his wife Joan and three children. He is research director for the Millipore Filter Corporation. Dick travels approximately 30,000 miles per year on business and has visited 14 countries. Since graduation, he has held four jobs and moved six times. . . . **Jan Peyrot** lives in Glastonbury, Conn., with his wife Carolyn and three children. He is an assistant project engineer for Pratt & Whitney Aircraft. Jan states that his weight gain since graduation is "zilch," that he makes no claims as to push-ups since he never started in this line of work, and that he keeps up in his field by the exercise of great vigor.—**Fletcher Eaton**, Secretary, 42 Perry Drive, Needham, Mass. 02192.

## '51

Time is growing nigh (whatever that means), but whatever it means our reunion dates are getting very close. By this time I hope that you will all have received a mailing or some personal contact giving you information about our fifteenth. One aspect that is somewhat new this year is the encouragement by the Institute to "extend" the reunion by encouraging classmates to come up to Cambridge for Alumni Day, June 13, (the Monday following our activities on the Cape). If you do combine our reunion with Alumni Day the Institute will offer free housing on both Sunday and Monday nights for alumni and their mates as well as free breakfasts on Monday and Tuesday and some miscellaneous activities to entertain you Sunday evening! There will be more information in the mailings, and still more can be obtained by writing to your class secretaries or the reunion committee. What more can I say except to encourage you to make your plans now (in the unlikely event that you

haven't yet), to attend our fifteenth reunion, June 11th through the 13th, and make it even more successful than our highly successful tenth.

In the news, **Dr. Gerald Austen**, whom we have noted in the recent past for his outstanding work in the field of medicine (he is an M.D., not a Ph.D.), was recently promoted to associate professor at Harvard Medical School and given tenure. . . . **David Caplan** was appointed manager, advanced manned space systems at Raytheon and now lives in Framingham, Mass. . . . **Dr. W. K. W. Chen** is manager, R & D, for Celanese Plastics Company (a Division of Celanese Corporation of America), in Clark, N. J. He and his wife Catherine (who also holds a doctor's degree), have two children: Ronald almost eight, and Curtis who will be five this month (happy birthday, Curtis). . . . **Ramon Colon** is with General Electric's re-entry systems department as a flight performance engineer. He has been with G.E. for 14 years in various capacities including mechanical reliability and flight systems engineering, and has spent seven months in flight operations and technical management at the NASA Manned Spacecraft Center. He and Kathryn live in West Chester, Pa., with their three daughters ages 11, 10, and 4. . . . Major **Frank Davis** has had a rather active life since Tech: he was with the 7th army in Stuttgart, Germany, until 1959, then he received his Master's degree at the University of Arizona, taught E.E. at the U.S. Military Academy where he achieved the position of Assistant Professor for Advanced Electronics. During the period '64-'65 he was a student again, this time at the U.S. Army Command and General Staff College in Kansas; currently he is C.O. of a signal unit—where else these days, Vietnam—we sure wish you well, Frank. . . . **Dave Findlay** currently lists his inventory in Canton, Ohio, as "one wife, two sons, one daughter, one dog, one wild horse (Ford), and one broken-collar-boned-son." Dave made MENSA, how many of you have?

**Vincent Frasca** is project manager for the consulting firm of Neste, Brudin and Stone (Civil Engineers); he and Elizabeth live in San Bernadino and have one daughter, Deborah, four. . . . **Dick Hammer** is "still in the automobile business" and is the vice-president of the Wyoming Auto Dealers Association. Dick is also President of the local Rotary Club and would like to know if any classmates who are Rotarians would be interested in a Rotary Club deer hunt in Wyoming. Anyone interested can contact Dick directly (912 Victoria, Sheridan, Wyo.) or see him at the 15th—he says that he'll be there. . . . **Dan and Mary Hardie** are living in Ann Arbor, Mich. Dan is with the Bendix Corporation Systems Division where he is manager of marketing administration. The Hardies have four youngsters ranging from Daniel, 11, to James seven. They have one girl (Susan, 10), and I shouldn't omit the fourth: Robert, nine. . . . **Bill Hazlett** is a project engineer at the Naval Air Development Center, Johnsville, Pa. Bill is also a Lt. Commander in the Naval Reserve. The Hazletts have two girls and a boy. . . . **Russell**

**Hodgdon, Jr.**, is with General Electric's direct energy conversion program (fuel cells), in West Lynn, Mass. He and Doris (Senfleben), live in South Hamilton, Mass. with their son and two daughters. . . . **Bob Hudders** was married this summer and he and his new bride, Shirley, moved into a new home in Williamsville, N.Y. Bob is with the Linde Division of Union Carbide. . . . Here's a switch, a move out of Lexington; **Walter Kinzinger** was recently transferred to Satellite Beach, Fla., as part of MITRE support to the National Range Division of AFSC in the development of a global range system. Actually, Walt only worked in Lexington; his home was in Melrose, Mass., where he operated his well-equipped amateur radio station. I just got another address change for Walt, as I was writing these notes, but it looks like he is just settling down down there. He and Marian have two young boys.

About a year ago **J. Franklin Koehler** transferred from Humble oil and Refining in Houston to Esso Chemical in New York. He is presently sales coordinator with their marketing and supply dept. . . . Incidentally, before I get too far afield, **Dr. Winston Markey** has helped to balance this exodus from Lexington: Winston returned to his home here and to his position as Associate Professor in the M.I.T. Department of Aeronautics and Astronautics after completing his appointment as Chief Scientist to the Air Force. . . . **Dr. John G. Lawton** is on the technical staff of the Cornell Aeronautical Laboratory where his main interests are information and communications theory. He joined CAL in 1952 after obtaining a Masters' degree with our class. In 1964 he was a member of the group convened by the Institute for Defense Analysis to study multiple random access satellite communications systems. John has published a number of articles in his field including a recent one entitled "Adaptive Detection and Waveform Estimation" (I never fail to be impressed by titles of technical articles). . . . **Robert Lazzopina** is with Burroughs in Paoli, Pa., as manager of military control systems. He and Marilyn have, count them: Laura, 12, Elaine, 11, Marilyn, 10, Diane, nine, Peter, seven (still more!) Karen, 5, and Robert Jr., 3. Well? . . . **Arthur Orenberg** recently joined RCA in Burlington, Mass. as a staff engineering scientist. He had been with the National Company (Melrose, Mass.) prior to this and since graduation! To celebrate, he and Annabelle bought a new house in Lexington. Arthur notes that the children are growing (two girls, 10 and eight, and a boy seven), and "so is the father (around the middle);" now can any of you out there make that statement? Art and Annabelle are active bridge players in the community and are looking forward to our 15th—probably to challenge some of you fat-around-the-middle classmates to some duplicate bridge.

**David and Kit Ragone** are soaking up the Southern California sun. Dave is the Assistant Director of Labs at General Atomic Division of General Dynamics as well as the Chairman of the Metallurgy Department there in La Jolla. He and

Kit acquired Christine Mary in 1963 and son Peter Vincent in 1964. Dave had been Professor of Metallurgy at the U. of Mich. prior to this. . . . Also amongst the professors, **Herb Woodson** is on sabbatical this year (from M.I.T.) and is working for the American Electric Power Service Corporation in New York City. Say Herb, what do you know about the November power blackout in the Northeast? . . . **John Stewart, Jr.**, and June are living in Reading, Pa., with their brood (the Lazzopinas are still a couple up on you, John), which runs from an 11 year old boy to a four month old girl and includes three in between. John is the director-controller-assistant secretary of the Reading Tube Corporation and is also plant manager of their main plant. Come to the 15th and tell us about it John—**Howard L. Levinston**, Secretary-Treasurer, 358 Emerson Road, Lexington, Mass. 02173; **Forest Monkman**, Assistant Secretary-Treasurer, 6331 Beverly Drive, Mission, Kansas.

## '52

Not too much news this month, but here are a few items. Major **Norman E. Niederman** was graduated December 17, 1965, from the Tenth Session of the Program for Management Development at Harvard Business School. . . . Dr. **Henry A. Sandmeier**, who is a theoretical physicist at Los Alamos Scientific Laboratory, has been appointed visiting professor of nuclear engineering at Purdue University for the calendar year 1966. . . . **Albert W. Blackburn** has formed Aero Systems Associates in Cold Spring Harbor, L.I., N.Y. as a consulting service in aeronautical system's analysis and development to provide a more effective application of new ideas and technology to some of the problems of civil transportation and military weaponry. . . . **Jess L. Belser** has just been made General Manager, Operations Engineering for the Continental Can Company at corporate headquarters in Chicago, Ill.

Dr. **Larry Krivit** is a busy general practitioner in Monroe, New York. . . . '52 was well represented in the list of 1965 Regional Fund Chairmen with **William B. Hawe** of Van Nuys, Calif., **John D. Pingree**, Newark, Del.; **Jack Larks** of Melbourne, Fla.; **William E. Moss** in Atlanta, Ga.; **David W. Weiss** in Silver Spring, Md.; **John Prizer** in Birmingham, Mich.; **Philip Sperling** in Cranford, N.J.; **Harry S. Kradjian** in Binghamton, N.Y.; **Francis Hyson** in Larchmont, N.Y.; **George T. DeMoss** in Reading, Pa.; **James Strawn** in Houston, Texas; and **Henry B. Hohorst** in Scarsdale, N.Y. And that's about it for the month. Please write.—**Dana M. Ferguson**, Secretary, 242 Grant Rd., Acton, Mass.

## '53

Winter has come to Cambridge and nature is still taking care of the coming and going of snow on our back streets. A

number of new buildings have come on the scene, including the Hermann Building which will expand the activity of the Sloan School in the management and social sciences, the new Student Center (a far cry from the old barracks), a Materials Research Center, and a new apartment building is going up in Kendall Square for M.I.T. personnel. For those of us who have not returned to the Institute since graduation, an interesting transition will be immediately in view. **John I. Hsia, III**, has turned his interest to space from jet engine metallurgy. John is manager, Satellite Tracking and Acquisition Department of the Smithsonian Astrophysical Observatory. Prior to engaging in these "wider horizons," John worked for General Electric for nine years where he improved the testing of compressor blades from jet engines so that their rate of discard was reduced from 50% to 3%. This flexibility is indeed impressive, as is the fact that John remains one of our few remaining bachelors. . . . **Bernard J. Kelly, X**, is a staff engineer with Nalco Chemical Company in Chicago, where he is involved in corrosion protection work for circulating water and steam generating equipment.

We have received notice of the following changes of address: **John F. Batter, Jr.**, Deerhaven Road, Lincoln, Mass. 01751; **Robert J. Beale**, 2465 No. Altadena Drive, Altadena, Calif. 91001; **Malcolm J. Blair**, 3803 Lincoln Rd., Cincinnati, Ohio 45239; **Charles A. Brown, Jr.**, Brown Convertiles, Inc., 1800 Portland Ave., Louisville, Ky. 40203; **George D. Cheney**, 2760 Pine Lake Rd., Orchard Lake, Mich. 48034; **Edwin C. Dykhoff**, 984 Jackson Ave., Parkersburg, W. Va. 26102; **Robert W. Ebeling, Jr.**, 128 Kellogg Way, Santa Clara, Calif. 95051; **Thomas A. Faulhaber**, 10 Emerson Place, Boston, Mass. 02114; **Prof. Norman C. Ford**, University of Mass., Amherst, Mass. 01003; **Julian M. Greenebaum**, 17535 Indiana Ave., Detroit, Mich. 48221; **Wolf Haberman**, 41 Crestwood Dr., Framingham, Mass. 01704; **Roland E. Johnson, Jr.**, Stratham Heights Rd., Stratham, N.H. 03885; **Harry W. Krimbill, Jr.**, 4509 Washington St., Midland, Mich. 48642; **Dr. Arthur F. Kuckes**, 62 Wheatsheaf Lane, Princeton, N.J. 08540; **Paul F. Marino**, 121 Bedford St., Burlington, Mass. 01803; **Capt. Eugene M. Romer**, USAF/RAF Exchange Program, Box 30, FPO, New York, N.Y. 09510; **Prof. Mark B. Schupack**, 475 Lloyd Ave., Providence, R.I. 02906; **Arvid H. Strom**, 24 Lawnside Drive, Trenton, N.J. 08638; **Cleyon O. Yowell**, 3138 W. Valjejo Dr., Anaheim, Calif. 92804.—**Norman R. Gardner**, Secretary, 100 Memorial Drive, Cambridge, Mass. 02142

## '54

A beautiful snow-filled day as I write, but unfortunately news is as scarce as is my view of a cleared driveway. . . . **Eugene P. Brandeis (XIV)** who is a senior product planning engineer for the Ampex Corporation published an article on magnetic tape rehabilitation in the Octo-

ber issue of Data Processing Magazine. . . . **Theodore J. Slosek (X)** recently completed General Electric's Advanced Marketing Management Seminar at Crotonville, N.Y. He is currently the manager of Product Planning and New Applications for the Irradiation Processing Operation of G. E. in Pleasanton, Calif. . . . **Harry C. Taylor (X)** wrote from Givatayim, Israel. Harry reports that he has been busy with his job at Israel Aircraft Industries and that in the spring he taught a course in Aero Engineering. He has been to Europe twice, once with a little extra time and some good weather. Harry has seen most of Israel, finding the most beautiful place to be the oasis of Ein Gedi by the Dead Sea, while the most interesting were the deserted Nabatean cities in the Negev Desert.

**David R. Whitehouse** a graduate student in Course VI in 1954 and later an associate professor in the same field at M.I.T. has now joined Raytheon as a principal research scientist. He and his wife Ruth live with their two children in Weston. David's principal interest at the moment is plasma dynamics. . . . In January your Secretary spoke to an industrial relations seminar at M.I.T. on the employment experience of men on parole from prison, with special reference to a sample of those released in Massachusetts. Contrary to certain impressions, the principal problem which these men face is not an unwillingness of employers to give them jobs because of their prison record; but rather the fact that their educational level and previous job experience tend to be marginal at best. It presents a serious social problem, and one which will seemingly worsen. On a closely related point, one might read Bruce Jackson's "Who Goes to Prison" in the January issue of Atlantic. . . . With best wishes for St. Pat's Day.—**Bob Evans**, Secretary, 43 High St., S. Acton, Mass. 01771.

## '56

**Phil Bryden** writes that he and Pat gained a daughter, Penny, on April 4, 1965. . . . **Gerald Diamond** and family moved to Frankfurt, Germany, last September where Jerry will be Director of Materials Management Services for Harbridge House, Europe. Jerry invites classmates in the area to drop by. . . . **Tom Doherty** moved to Toronto last year to work in a small architectural firm and reports that he is enjoying it. . . . **Bob and Rose Follett** report a son, Paul Edward, born on October 13. Bob is a systems engineering manager for IBM in the Navy Program in Washington. . . . **Bill Grinker** has been promoted to branch manager of the Boston sales office of Honeywell's computer division. . . . **George and Winifred Luhrmann** announce the birth of a daughter, Anna Elizabeth, on Christmas day 1965. Skip finished medical school last June. . . . **Bernard Patnode** ran for town selectman in Wilbraham, Mass., last November (sorry no results). Bernie received a masters degree from Western

New England College and now teaches in the graduate school there. Actually, his primary job is technical superintendent for manufacturing operations for Springfield and Everett plants of Monsanto.

Judy Gorenstein Ronat and Elhanan Ronat have announced that they are going to live in Israel permanently. . . . News comes that Marilyn Schranze wed Charles Gulotta and they have a daughter, Miriam Susan, born November 16. Dick Skavdahl is manager of the Fuels Design and Evaluation Unit at Batelle-Northwest, the atomic energy center at Richland, Wash. In November he attended conferences in England and France as one of a group of U.S. scientists participating in an information exchange. . . . Dexter Wheeler has been elected a member of the Board of Directors of the Evangelistic Association of New England. He also serves the West Congregational Church in West Peabody, Mass. Dexter and Sara have a daughter, Deborah Joy.

For a preview of the Wychmere Harbor Club read the class of 1945 notes for January 1966.—Bruce B. Bredehoff, Secretary, 16 Millbrook Road, Westwood, Mass. 02090.

## '57

A number of brief notes comprise this month's news: Joseph Carty is a senior programming analyst for System Development Corporation (SDC). He and his wife, the former Jane Neilan (Simmons '59), recently moved to Somers Point, N.Y., from Phoenix, Ariz. They have three children, two boys and a girl. . . . Herbert Klei received his Ph.D. from the University of Connecticut in June and is now an Assistant Professor in Chemical Engineering at the school. . . . In a brief note John Crews reports the following: "I am now in London as manager of European operations for Advance Data Systems Division of Litton Industries. Our principal project is a program of development of an automated ticket selling, inspection and collection system for the London Underground. We have just installed a computer controlled passenger gate which checks each passenger's ticket and permits the passenger to leave the Underground only if the proper fare has been paid. The system can distinguish tickets from any of 270 stations and calculate the fare due. It can also deal with season tickets, passes, etc." . . . Joel Schiffman is currently finishing his orthopedic residency at NYU—Bellevue Medical Center. His wife (Barnard '61) just received her M.A. from NYU. They have a one year old daughter. Later this year Joel will enter private practice in orthopedic surgery. . . . David Bloomfield, formerly with IBM in Poughkeepsie as manager of purchasing, has accepted a position with Holley Computer Products as Director of Material. He will be responsible for all procurement, production control, and materials distribution. . . . Dick McCabe received his M.S. in Industrial Engineering from Tech in June and is now with Douglas' Aircraft Division in

Long Beach, California. . . . Mike Brenner has been appointed to The Editorial Board of the Journal of Industrial Engineering; his primary role is reviewing technical papers for possible publication.

Daniel Maxfield reports that a recent promotion has taken him into Systems Planning, Airports Service, for the Federal Aviation Agency. He is continuing his graduate studies at George Washington University in Economics, Transportation and Public Administration. He notes his "wife and four boys all contribute to a full schedule at the Maxfields." . . . John Armitage and his wife are now working on their Ph.D.s (Optics and History, respectively) in London. John is on leave from IBM. . . . John Tiller writes as follows: "I recently joined AdCom, Inc., of Cambridge (Advanced Communications). The company is an analytical and study group, mostly M.I.T. alumni; there is no production line. In December of 1964 I married in the M.I.T. chapel the former Georgette Baghdady of Zahle, Lebanon." . . . Robert Mende has just completed a two year term as National Secretary-Treasurer of the Alumni Association of the Webb Institute of Naval Architecture. . . . A brief note from Sanford Cobb reports the following: "In April (1965) I married Sandra Olson Lammle. Her five-year-old twin daughters make a good start towards a family. I'm still with 3M (now a technical service representative for the Visual Products Department—overhead projectors, etc.) and located in Saint Paul." . . . John Holmfeld left his position with NASA in August of 1964 and is now at the Case Institute in Cleveland working for his doctorate in "Science, Technology and Public Policy." He spent the summer of 1965 as a research fellow at George Washington University exploring the role of Congress in science policy.—Frederick L. Morefield, Secretary, 457 Harris Road, Bedford Hills, N.Y. 10507.

## '58

Now, with the holidays over, your performance review completed, and a fantastic raise in hand (which you'll never see until June or so because FICA goes up this year), how about celebrating by sending along some news. As faithful readers of this column, I'm sure you suspect we 'shot our wad' in December. So when you pay Bob Jordan's gas bill, send along some gas for the Class news! (prepaid, please!).

I received a letter from Toni Schuman with some news of new assignments. Jim Braman is now serving in the Canal Zone as Director of Resource Planning, Civil Engineering Headquarters, USAF southern Command. . . . Stan Graves is now working as a project engineer for the LaSalle Steel Company, after completing his S.M. in Mechanical Engineering at M.I.T. in June.

Other new positions: Benedict Rosen has been appointed manager of the eastern development center of Sprague Electric's filter division. He was previously in charge of the division's research group.

4  
David Bentley is now on the staff of the newly reorganized Kenrich Chemicals. He was formerly a development engineer with Bakelite Division, Union Carbide. . . . Robert W. Thomson recently joined Ford Motor Company in Dearborn as a personnel research consultant. He has an M.B.A. from U. of Michigan and a Ph.D. in Industrial Psychology from Purdue. He married Judith Kay Dyer in 1962; they now have twin daughters.

A research project in theoretical nuclear physics at Southeastern Massachusetts Technological Institute will be directed by Paul Jolly. He was recently appointed assistant professor of physics at SMTI. Paul received both M.A. and Ph.D. degrees at Harvard following a year in Germany as a Fulbright scholar. . . . Edward Krokosky has received his Sc.D. in Mathematics from M.I.T. as well as an S.M. in Civil Engineering. This past summer he participated in the Technical Summer program at the US Steel Corporation Research center in Monroeville, Pa. . . . Eugene Elander is a lecturer in economics at the Wright State campus of Miami and Ohio State Universities in Dayton, Ohio. He married Dorothy Sue Naugle last April. Also, he is engaged in economic and financial consulting. . . . Richard Kolker has been appointed part-time assistant professor of electrical engineering at San Jose State College. . . . At Haverford College John Thorpe has been appointed as an assistant professor in mathematics. . . . Robert Hertel has received his Ph.D. at the California Institute of Technology. He also received his M.S. at Caltech in 1959. . . . Ohio State has conferred advanced degrees on two class members; Richard Davies and Stuart Mapes.—Michael E. Brose, Secretary, 205 Pine Street, Tecumseh, Mich.; Antonia D. Schuman, Western Associate, 23105 Stoneybrook Drive, North Olmsted, Ohio.

## '59

I wish to apologize for the gap between the '58 and '60 class notes last month, but there was very little to report. Also, my doctoral general exams happened to fall on the same day that the column was due, and I was too nervous to strike the proper keys on the typewriter.

Word has been received from Dick Desper that he is the proud new father of twins. John Michael and Beatrice Marie arrived November 7 and weighed in at seven and a half pounds each. These were numbers two and three for Dick and Beatrice who also have a one-year-old daughter, Elizabeth Anne. Dick is finishing his Ph.D. thesis at U.Mass. on the subject of "The Study of Biaxial Orientation in Polymers by X-ray Diffraction." The major results will be presented this spring at the meeting of the American Physical Society, Division of High Polymer Physics.

A Christmas card from Don and Cindy Spiller included a picture of their son, Woody, of whom they are justly proud; Don is with IBM in Texas, having received his M.B.A. from Harvard several

# Participation in '66 Alumni Fund vs. '65 Participation on Same Date

Class	1/31/65			1/31/66		
	No. Active	No. Contribs	%	No. Contribs	%	
'54	678	156	23	156	23	
'55	671	153	23	159	24	
'56	779	175	23	170	22	
'57	779	182	23	201	26	
'58	799	158	20	175	22	
'59	795	148	19	185	23	
'60	788	162	21	183	23	
'61	759	121	16	152	20	
'62	738	94	13	136	18	
'63	778	79	10	109	14	
'64	733	41	6	101	14	

years ago. . . . **Donald Avery**, now an Assistant Professor of Metallurgy at M.I.T., has been awarded the American Society of Metals' Henry Marion Howe Medal; I regret that I have no further details on this. . . . **Dick Drossler** has been elected President of CMC, Inc., a marketing research and consulting firm with headquarters in San Francisco. . . . **Jerry Roylance** has graduated from the Air Force Squadron Officer's School in December, and has been assigned to March AFB in California. . . . **Charles Karrer** (M.S., Ind. Mngt., '59) has been appointed works manager at Detroit Diesel Engine Division of GM.—**Glenn Zeiders**, Secretary, 3 Rose Ave., Watertown, Mass. 02172.

## '60

Christmas brought the following notes on the back of cards: **Rudy Marloth** writes from San Diego, "We are increasing faster than I care to tally, but at least we're not getting any smarter. I'm working at the Navy Electronics Lab and Barbara is going to school part time. The Old Globe Theater is our new shrine." . . . From **Beryl Denker**, "We are still working on our house, and I'm beginning a correspondence course in drafting so I can help Jim out in his work. Karen is 2½ and loads of fun." . . . **Jerry Slawewski** sent us a card from Washington, D.C., saying, among other things, "Am at U. of Maryland still in pursuit of the holy grail." . . . **Don deReynier** writes from Cincinnati, "Denise Lynn, our second daughter (rah?) made her appearance in late September. On Halloween we moved into our newly built house—color me suburbanite. I'm still with P & G but left the computer for Toilet Goods Advertising Department. Yes, Virginia, work in advertising is frantic and time consuming." . . . **Fred Leonetti** married Beverly Brandes in August, 1963, in Portland, Ore.; he is now in business with his father and brother—Leonetti Furniture Manufacturing Company—upholstered furniture. John Pieri Leonetti was born on February 22, 1965, and his birth was announced as "The Newest Model in the Leonetti Line".

I have an un-dated press release which says that First Lieutenant **Bill Anderson** has been named a co-winner of the U.S.

Air Force Chief of Staff Trophy in the more than 500-man graduating class at the Squadron Officer School at Maxwell AFB, Ala. He has been reassigned to Norton AFB, Calif., for duty. Congratulations, Bill, although I have an idea that this is several months late. . . . I'm going to have to cut the class news short this time. I'm an MBA candidate at B.U. and am in the middle of exams—and at B.U. exams are held at 8:00 A.M. (I also have a job at B.U.) Chris is a Ph.D. candidate at the Sloan School and will be teaching (as an instructor) in Management Information Systems next term.—**Linda G. Sprague**, 345 Brookline Street, Cambridge, Massachusetts.

## '61

Many people sent a few words about their goings on along with the reply to the reunion mailing and so I have some meaty material. **Harold Bowers** sent a letter with his \$5 class dues check (have you sent yours?) in which he said "I went to work for General Electric Company in Ithaca (N.Y.) after graduation from M.I.T. and while working for them got my masters degree in Engineering Physics at Cornell on a part time basis. Presently I am on a leave of absence from G.E. and am working for my Ph.D. in applied physics (Theoretical) at Cornell. I am almost finished and expect to be done by February 1966 at which time I am going back to work for G.E. at their Electronics Laboratory in Syracuse. Because of certain regulations at Cornell I won't actually receive my degree until June, though. As you may know I was married (to Marie Quinn of Arlington, Mass.) just after graduating from M.I.T. We now have two little girls, one three years old (Cathrine) and one 10 months (Cristina)." Thanks for the news, Hal.

Hal was not the only person to use the opportunity to let us know what he was doing, although most people were constrained by the four lines on the reply card. **Mitchell Brodtkin** said that he is "still single and is working for Purex Corporation Ltd. as a process Engineer." . . . **Leo Cannon** "Just married (9/11/65) the former Judy O'Neal—a secretary in the Chemical Engineering Department (M.I.T.) with **Dave Williams** (best man)

and **Bob Lewis**, **Bill Scanlon**, **Reed Freeman** and **Phil Cunningham** (ushers) all from the class of '61. Now working as a public accountant for the firm of Lybrand, Ross Bros. and Montgomery (M.I.T.'s Auditors)." . . . **Fred Carson**, "Began doing postdoctoral research with Prof. Kurt Mislow at the Chemistry Department of Princeton in September '65." . . . **Dorsey Dunn** lives in New York City and worked as an Assembly District Campaign Coordinator for John Lindsay. He (Dorsey) works for Mobil Chemical Company, as a planning analyst. . . . Any of you New Yorkers in trouble with the law? Just see **Harvey Eysman**. He was admitted to the New York Bar in December 1964 and entered into private practice at 1440 Broadway; his specialty is trial work. . . . **Millard Firebaugh** is still in Boston and hopes to graduate in June from course XIII-A. He is still single and still in the U.S. Navy and "loves it." . . . **Royce Fletcher** writes: "Suzie, Scott and I are now in Natick, Mass. where I am a Memory Development Engineer for Computer Control Company." . . . **Paul Fricke** is "now employed as a stock analyst and portfolio manager by Growth Research Inc., Chicago, which manages Growth Industries Shares, a mutual fund." . . . **Maynard Johnson** "will graduate from the University of Missouri Law school in February 1966." . . . **Jim Knoedler** is "employed by TRW Systems Inc., Houston, Texas." Jim's wife is (or rather once was) **Britta E. Churley** (Simmons '61) and they were married on June 24, 1962. . . . **Walt Krolikowski** is working on a Ph.D. thesis in Electrical Engineering at Stanford. . . . **Chuck Lane** works for Standard Oil (New Jersey) as a systems analyst following two years in the Navy and two years at Stanford acquiring an MBA.

**Dan McConnell** Works for Raytheon in a Regional office in Maryland (he is the regional manager) at the Microwave division. He and wife **Sharron** have two boys. . . . **John Maslanka** got an M.A. from Boston College last June. . . . **Harry Rosenzweig**: "wife: Susan, Son: Scott, Second Son: due 11-24-65, Ph.D. due: 6-66." . . . **Dave Sachs** is "still at Tufts. Expecting my Ph.D. (in physics) by September 1966 (I hope, hope, hope)." . . . **Gerry Staack** announced the birth of Carolyn Waddill Staack on May 27, 1965. **Glen Stoops** "married Anne Odum in Dallas 7-31-65, hope to receive Ph.D. in Math, from Rice University in 1966." . . . **Bill Swanson** is completing his third year in the Navy Supply Corps. He is at the New Orleans Air Station and will be leaving the service just in time to attend the June Reunion. . . . **Dick Weddleton** received an M.S. in Chemistry from Indiana University in June 1963 and a Ph.D., also in chemistry, last June. Now he is working for G.E. in Schenectady, N.Y. . . . **Bob Weimer** wrote "I am now serving two years as a first Lt. in the U.S. Army, stationed in Washington, D.C., as a result of my ROTC commitment. I received my Ph.D. in Chemical Engineering from the University of California, Berkeley, in January 1965."

**John Castle** has two children now: Philip Edward, age one year and Michael

Andrew all of one month (as of last November). . . . **George Gilliland** is a "project Engineer at Kollman Instrument Corporation, Syosset, N.Y., responsible for the Space Sextant flown on Gemini GT-4 flight. Single and Swinging." . . . **Aare Onton** married Ann Louise Reuther of Bridgeport, Conn., on August 14, 1965; she graduated from Purdue in Chemistry. By a strange coincidence Aare is also a student at Purdue. . . . **Paul Cox** said: "Karin and I would like to join you at the reunion but we will be finishing up my internship at Grady Hospital in Atlanta. We will spend another year here in Medical Residency and then two years in the Public Health Service." . . . **Don Straffin**: "wife had another girl! Last July 20th—Teresa Leich. Just came back a few weeks ago (this was written in November) from sea trials aboard the Benjamin Franklin, SSB(n)640. Was just a few days, but quite a thrill considering it was my first submarine ride. Passed through Boston last year to take a short cruise on the USS Bainbridge." . . . **Lynne Mutchler** said that her "husband got a post doctoral job at Los Alamos Lab after completing Ph.D. at Tech. I'm looking forward to leaving Mass."

Finally I got a letter from **Ira Jaffe** letting us know that Mr. and Mrs. **Will Kenigsberg** and Mr. and Mrs. **Mannie Smith** were each blessed with an addition to their families, the Smiths with a new girl and the Kenigsbergs with a boy.—**Andrew Braun**, Acting Secretary, 1038 Beacon Street, Brookline, Mass.

# '63

Since last month I have received one letter, and that one is from **Dan Ross**. Last August he married Faye Zerwekh, Wellesley '65. Now they are both students at Penn; he's in his last year of law school and she is in the M.A.T. program. Next in their plans is a stint in the Army. . . . Via phone I have learned that **Steve Kaufman** has returned from Europe and is now working in Detroit for a small manufacturing company. . . . Also by phone, **Don Yansen** is living in Boston and working with an electronic instrumentation firm. . . . **Jim Nick** is learning how to ski the right way this year; he's taking lessons. . . . Unless somebody writes me soon this column will disappear, so send me a note. Or if you have a WATS line or feel rich, call me at 445-3318.—**Laurence R. Johnson**, Secretary, 1089 N.E. 91 Terrace, Miami, Fla. 33138

# '64

In response to an urgent plea for news in the December issue, I have had as of this date (January 13) a total of four direct replies. Thus entitled to the rank of Class Hero are **Ed Casper**, **Bruce Knobe**, **Jim Monk**, and **Warren Wiscombe**, with Warren deserving a special citation for relaying the activities of five other classmates included in this issue.

Also in this class are **Marlyn Pettit** and **Jack Prosek**, who sent season's greetings and news apparently independent of the plea. For any of the other 99¼% of the class who would like to share their news with the rest of us, please drop me a line.

**Ed Casper** recently received his M.A. in organic chemistry from Columbia and is continuing on toward his Ph.D. His wife is currently on the library staff at Columbia. . . . **John Cottrell** and his wife Sue are living in Long Beach, Calif. She is finishing her B.A. in education and John is working for North American. John and his daring comrade survived a kayak trip down the Yulson River last summer and were written up in the "Whitehorse Star" for their adventure. . . . **Robert Fischer** of Darien, Conn., was engaged last November to Miss Anne Mangan of Brooklyn, and is now working on his Ph.D. in Political Science at M.I.T. on a fellowship. Anne is working on an M.A. in literature at Wisconsin on a Woodrow Wilson Fellowship. . . . **Bob Gray** is continuing his studies at M.I.T. and is reported to be having a gay time. . . . **Bill Hart** and his wife Bonnie are living in Palos Verdes Estates, Calif., where he is working for the Aerospace Corporation. . . . **Bruce Knobe** is to receive his M.S. in math from the U. of Ill. in February and then enter the Ph.D. program at N.Y.U. after that. . . . **Dick Lipes** is enrolled in the physics department at Cal Tech and is doing research in elementary particles under Prof. George Zweig. Dick is there on an N.S.F. Fellowship. He plays lacrosse with an organized team of M.I.T. alumni in the area and also plays basketball with a team of grad students who regularly whomp the Cal Tech varsity team. The rumor is that he is getting serious about a Radcliffe grad who is pursuing her studies out there. She reportedly helps him with his homework in the evenings. . . . **Marlyn Pettit** is in his first year of law school at the U. of Va. He says the campus is beautiful, but has not yet decided how compatible he and the law are at this point. The alternative to law is to play marching for a while. . . . **Jack Prosek** has been working since graduation for the Turner Construction Company. He was first a Field Engineer, but since December has been in the Chicago office in the Cost Department. He water skied last summer, went to Ill. football games in the fall, and is generally enjoying life. . . . **Gary Slater** has been named instructor in aerospace engineering at the U. of Cincinnati. He received his M.S. from M.I.T. in '64, where he was a Sloan fellow. . . . **Warren Wiscombe** is in his second year of grad work at Cal Tech. After becoming disenchanted with the physics department out there, he switched to applied math. He will receive his M.S. in physics anyway, and is working on his Ph.D. in math while continuing his N.S.F. Fellowship. He will take his Ph.D. orals sometime in April. . . . **Bernie Yaged** is the roommate of Bob Gray and is likewise continuing his studies at the Institute. Bernie will be working out in Calif. this fall.

That's the news for now. Let me hear from you.—**Ron Gilman**, Secretary, Dane Hall 102 Cambridge, Mass. 02138

## Club News

### Columbus Alumni Hear Student's View of M.I.T.

The M.I.T. Club of Central Ohio held a luncheon on December 29 at a private club. M.I.T. students who reside in the Columbus area were guests of the alumni. Half of the local students and a third of the local alumni attended, a total of nearly 50. **Jim Veilleux**, an M.I.T. senior, presented a 15-minute colored slide show, with both taped and ad libbed remarks, on the subject: "A Student's-Eye View of M.I.T." It was extremely well received.

A clambake was held on October 16 at the estate of G. Woodford ("Wood") Thomas, '39. It was put on by popular demand, after the huge success achieved by a similar clambake in 1964. Attendees enjoyed boating, horseshoes, a big keg of beer, badminton, lively conversation, and of course vast quantities of clams and lobsters prepared by Wood Thomas personally. Dottie Thomas rounded out the meal with other goodies, which her guests consumed with gusto and exercise-whetted appetites. Both gourmets and gluttons were thus well provided for.—**Arthur B. Clymer**, 2145 Tremont Road, Columbus, Ohio.

### Christmas Luncheon Held in Toronto

The M.I.T. Club of Ontario held its Annual Christmas Luncheon on Thursday, December 30, 1965, at the Board of Trade Building in Toronto. In addition to the fine alumni attendance at this luncheon, we were fortunate in having three students from M.I.T. join us. All three, Messrs. **Bruce Forman**, **Terence Hamilton-Smith** and Miss **Maria Kivisild**, spoke briefly after the luncheon about their experiences at M.I.T., and about the continuing changes taking place on campus. These holiday luncheons have become a tradition with our Club, and the success of this luncheon will certainly assure their continuance.—**Alan Kotliar**, Secretary, 494 Avenue Road, Toronto, Ontario, Canada.

### Orlando Alumni Hear About Curriculum Changes

Twelve alumni and their wives attended a dinner meeting of the M.I.T. Club of Central Florida held on December 9. **Paul Johnson**, Assistant Director of Admissions at the Institute, discussed the major change in curriculum which has just gone into effect. He also gave some insight into the problems of students in selecting a major course of study and adjusting to life at the Institute. **Peter Hand**, '48, was presented a certificate from the Alumni Association in recognition of his outstanding leadership of the local Alumni Fund drive during the past year.—**Leonard D. Healy**, Secretary, 1813 Baylarian Boulevard, Orlando, Fla.

## Kansas City Alumni Examine African Politics

A very worthwhile and fascinating meeting was held on November 15. It was a joint meeting with the Kansas City Chapter of the American Society of Public Administrators, whose membership includes public officials at various governmental levels, individuals working intimately in research and consulting with the government agencies and ex-patriate administrators now with the People to People program headquartered in Kansas City. The background to our meeting involved the annual conference of UNESCO, held here in Kansas City during the week of our meeting.

Our speaker was Dr. Willard R. Johnson, M.I.T. Professor of Political Science, and for five years a member of the U. S. Commission for UNESCO. Dr. Johnson spoke from personal involvement not only with UNESCO but as leader of a Crossroads Africa team of students in 1963. His subject at our meeting was "Public Administration and Political Development of Africa."

Twenty M.I.T. alumni and guests, with an equal number from ASPA, were exposed to Dr. Johnson's clear understanding and statement of problems in Africa and specifically in the realm of government in these emerging nations. Working from the history of colonial development, which naturally had its initial objective as a service to the 'mother' country and in the development of an independent nation, Dr. Johnson traced the consequences, some of which we are quite familiar with in today's headlines. The new governments, many founded on unstable populaces and insecure economics, are trying to leapfrog into modern industrial nations without the background of education and a popular understanding of modern life and economics such as was gradually gained by the western countries over a period of several centuries.

We cannot translate our traditional concepts of government and business into this kind of situation. Neither can we expect the uprooting of tribal traditions and the switch from subservience to independence to be accomplished without stress.

In response to several questions Dr. Johnson stressed the need for a long-pull program by this country and others, generously endowed with patience in the face of provocation, to help these nations achieve their goals with as much stability as possible. In spite of petty actions to the contrary these countries at present are almost universally pro-western by choice. Our programs need not be massive aid in the traditional sense, although this certainly will continue to be one role. Rather, development of human resources, particularly education at secondary and higher levels, should be the main thrust of our aid. Likewise, while industrialization is a necessary objective of each country, our aid should help them to accomplish the changes in a vein consistent with their resources; many times this will involve agriculture and transportation more than manufacturing. These will not be dramatic endeavors but will stabilize the economy underlying a gradual industrialization.—Beverly J. Kirkwood '49

## "Thoughts on Vietnam" Talk At Dallas Christmas Meeting

The M.I.T. Club of Dallas played host to 22 Dallas Area M.I.T. students home for the Christmas holidays and 24 fall-term applicants at its Second Annual Christmas Student Luncheon on Thursday, December 30, in the Texican Room of the North Park Inn in Dallas. Each invitee was requested to bring along a parent, a teacher, or guidance counselor as a guest of the Club.

General Hamilton Howze, U.S.A. Retired, spoke to the 75 people in attendance. General Howze has recently retired after 35 years of distinguished U.S. Army service. He played a leading part in developing the new tactical mobility concepts now being employed by the U.S. Army in Vietnam. General Howze was the former Commander-in-Chief United Nations Command, Korea. As a civilian he is taking charge of Product Planning as a Vice-president of the Bell Helicopter Company. General Howze's talk was entitled "Thoughts on Vietnam" and was an inspiring and informative talk that impressed students and alumni with the complexity and seriousness of our nation's Vietnam commitment.

M.I.T. student Gerald Tomanek, Class of '67, Course VI-2, spoke to the M.I.T. applicants about student life at the Institute. He not only gave the students a true to life picture of what student life is all about, but also revived many cherished memories for the alumni. The students, applicants, and alumni exchanged views in small groups after the meeting.

The officers of the M.I.T. Club of Dallas feel that the Christmas Student Luncheon is a very important part of the Club program and is a real opportunity for every Alumni Club to encourage and strengthen support of M.I.T. in the high schools.

## Providence Alumni Entertain Undergraduates

A successful luncheon meeting of the M.I.T. Club of Rhode Island was held at Johnson's Hummocks on December 29. Fifteen undergraduates, home for the holidays, were guests of the alumni. Three of the students gave informal talks on "Life at M.I.T. Today," after which the meeting turned into a forum discussion. This is the second year for such an event; the group hopes that in the future it can increase the interest of club members.—Stewart A. Phillips, Secretary, P.O. Box 326, Warwick, R.I.

## Students Entertained At Milwaukee Meeting

The M.I.T. Club of Milwaukee's annual student recognition luncheon was held December 30, 1965, at the University Club. Accompanied by their fathers, several young men presently attending the Institute from Wisconsin shared their experience with the alumni. Some of the young men attending were James and Edward Gruhl, Philip Sikes, Kerry Bensman, John D. Fricker, Robert Wright and Robert Vircks.

President Raymond Laub introduced the main speaker, Mr. William Younger of Allen-Bradley, who discussed the advantages of working in Wisconsin. Mr. Younger mentioned two main points that influenced his moving to Wisconsin—it is an excellent place to live and raise a family, and there are many job opportunities available.—John D. Harms, 170 E. Green Tree Road, Milwaukee, Wis.

## Hubert Humphrey to Address Washington Alumni

At our March 17 dinner meeting, the M.I.T. Club of Washington will have as honored guest the Vice-president of the United States, Hubert H. Humphrey. Mr. Humphrey will be introduced by the honorable Weston Vivian, Democratic Congressman from Michigan, M.I.T. Class of 1949. All M.I.T. alumni and guests are welcome. For reservations contact Gil Lewis, President of the M.I.T. Club of Washington (656-6531), or Dan McConnell (735-2562).

On April 28 the dinner meeting will be held at the Cosmos Club, the featured speaker to discuss current aspects of Oceanography. Our speaker will be a nationally known figure in the field. The recent Sea Lab II experiments will be covered by personnel connected with the program.

On December 28 the annual Christmas luncheon was held for Washington area alumni, M.I.T. undergraduates, and high school students who have applied for admission for the fall of 1966. The luncheon was the most successful in history in that it was attended by 110 students, half of them undergraduates, half applicants. An excellent slide presentation on various features of student life was shown by Jim Villeux, '66. The high school students enjoyed the luncheon immensely and appreciated the opportunity to learn more about M.I.T. through direct exposure to students and alumni.—Dan R. McConnell, '61, 4134A Suitland Road, Suitland, Md. 20023

## Charleston Group Elects New Officers

A Christmas Dinner for Tech students, prospective students, and high school guidance counsellors was given Thursday evening, December 28, by the M.I.T. Club of the Kanawha Valley at the Charleston Army-Navy Club. James W. Veilleux '66 of East Bridgewater, Mass., presented his excellent sound-slide film of life at Technology from a student's viewpoint. Three guidance counsellors, four local high school students, three prep school students and one Tech senior were the special guests of the 26 attending or contributing alumni.

An election of officers resulted in the unanimous selection of the following to serve for the coming year: president Wilburn H. Hoffman '46, Vice-president Benjamin T. Woodruff '36, Secretary-Treasurer Arthur J. Power '42, and Member-at-Large Frederick A. Woods '47.—Daniel G. Hulet '42, Secretary-Treasurer, 650 Gordon Drive, Charleston, W. Va. 25314.

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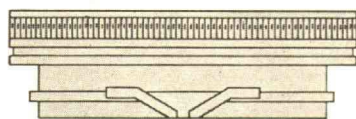
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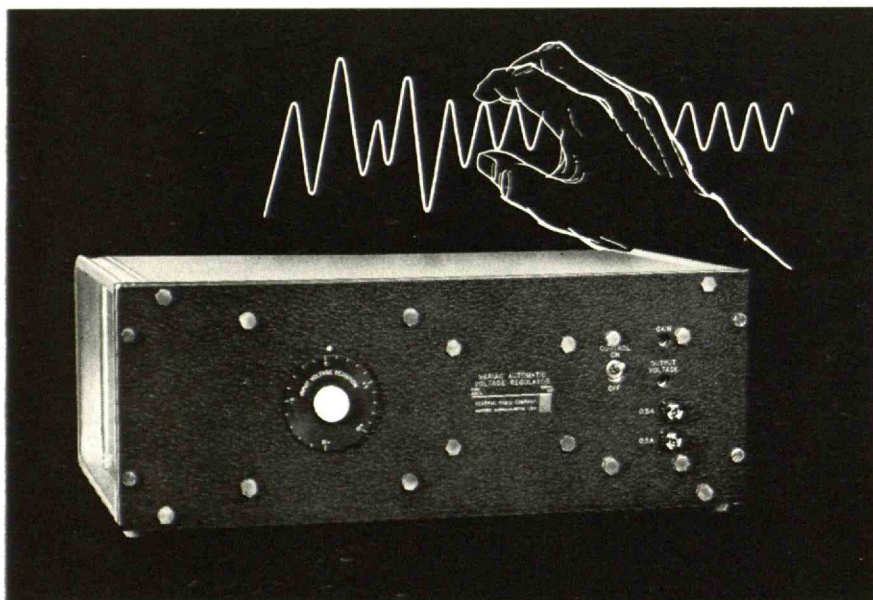
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